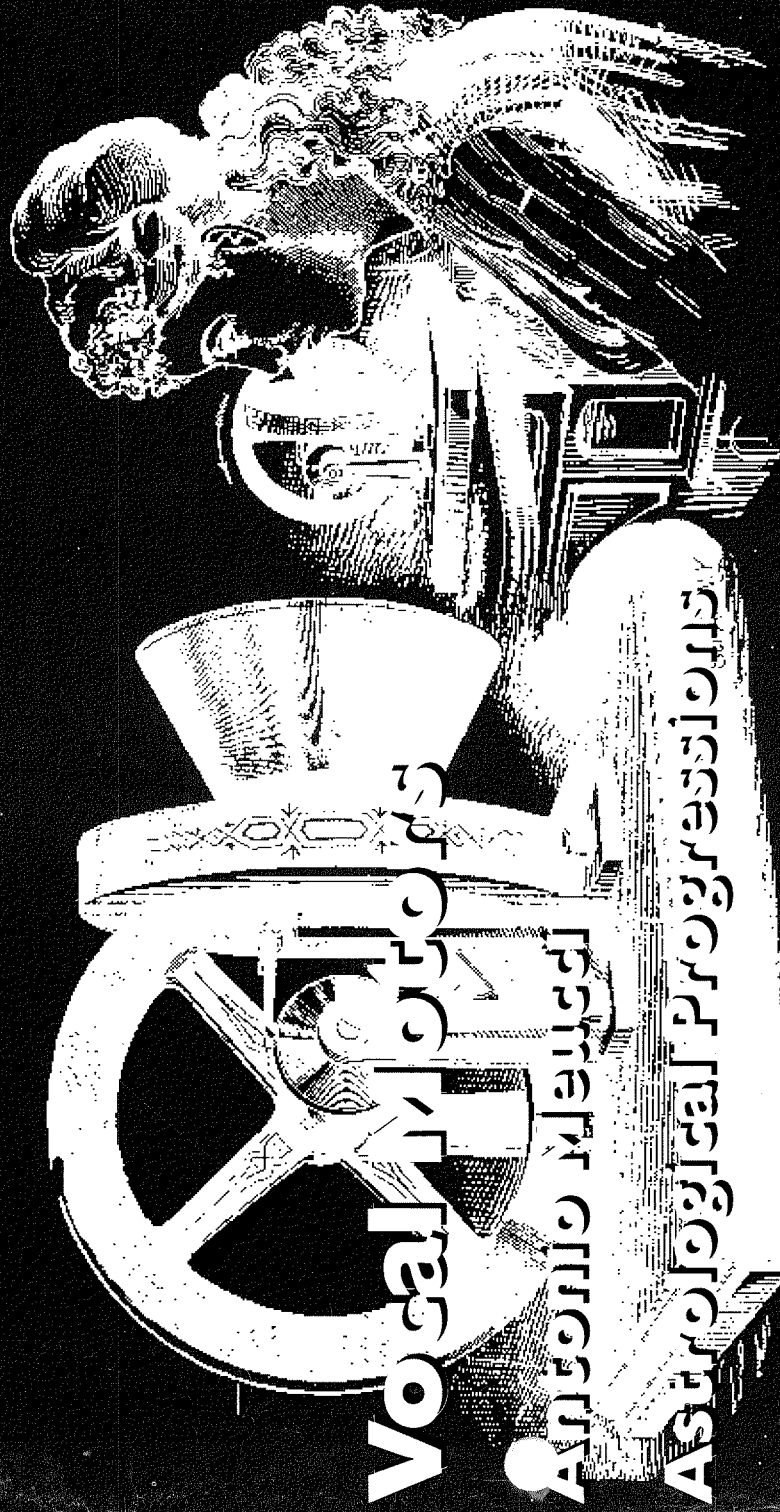


Volume LI, Number 4

Fourth Quarter 1995

BORDERLANDS

A Quarterly Journal of Borderland Research



Vocal Motors

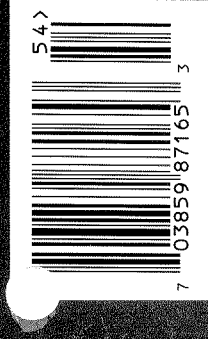
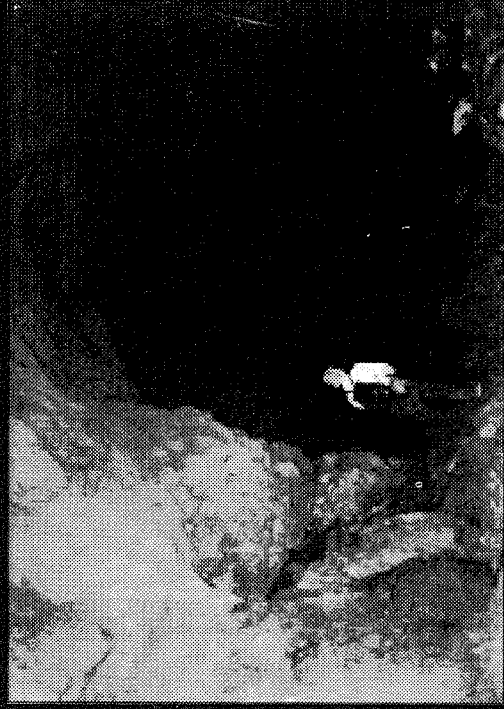
Antonio Meucci

Astronomical Progressions

NASA and the Moon Shots

Pyramids and Cones

Analog vs. Digital



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Exploring the Hollow Earth

Page 58

ANNOUNCING

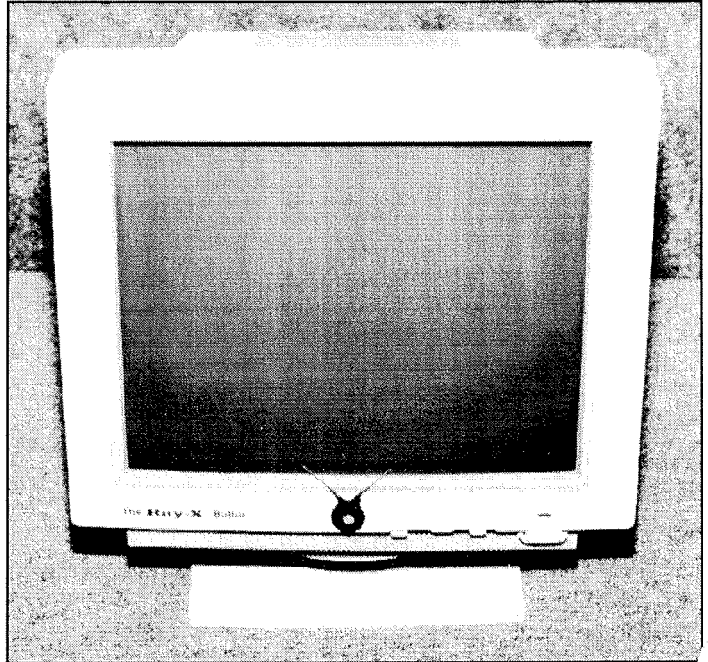
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— Judith Hill, Portland, Oregon

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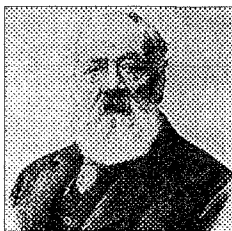
A Quarterly Journal of Borderland Research

Michael Theroux
Editor in Chief

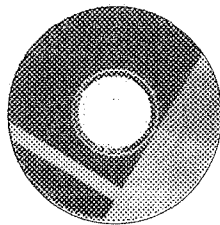
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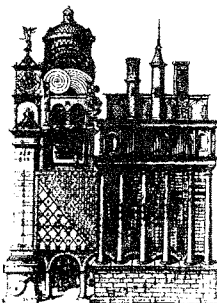
FEATURES



page 9



page 23



page 34

HEARING THROUGH WIRES • 9

THE PHYSIOPHONY OF ANTONIO MEUCCI
by Gerry Vassilatos

VOCAL MOTORS • 19

SOUND MILLS AND PHONOMOTORS
compiled from the Vril Compendium

MEANINGS, MESSAGES, AND SIGNALS • 23

COMPREHENDING THE DIFFERENCES BETWEEN ANALOG AND DIGITAL
RECORDING MEDIA
by Franklin Ellsworth Clarke

THE MUSIC OF ERICH ZANN • 32

by Elizabeth Delia Worthing

OCTAVES OF TIME • 34

SPIRALLING TIME CYCLES IN WESTERN ASTROLOGY
by Judith A. Hill

PYRAMIDS AND CONES • 37

AMBIENTLY POWERED ENERGY MANIPULATORS (APEMS)
by E.D. O'Brian

MT SHASTA: HOME OF THE ANCIENTS • 58

1995 EXPEDITION REPORT
by Michael P. Elsey

DEPARTMENTS

BOOK REVIEW: "NASA MOONED AMERICA" • 52

Review and Commentary by Thomas Brown

VIEW FROM THE BORDERLANDS • 2

CLIPS, QUOTES, AND COMMENTS • 3

BORDERLANDS

*A Quarterly Journal of
Borderland Research*

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Borderland Sciences Research Foundation was founded by Meade Layne in 1945 for the purpose of investigating into realms normally beyond the range of basic human perception and physical measurement.

BORDERLANDS originated as Meade Layne's **Round Robin** in 1945 and was changed to **The Journal of Borderland Research** in 1959, finally becoming BORDERLANDS in 1992. BORDERLANDS is an information nexus for thinkers and doers on the frontiers of science and awareness.

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VIEW FROM THE BORDERLANDS

Editorial

I DO hope the changes the magazine has gone thru this year have met with approval. The main purpose of BSRF is to act as a clearing house for information on a wide variety of topics otherwise difficult or impossible to obtain, and in order to serve the needs of the alternative science community we must expand in many directions. Of course, the integrity and quality of the material presented will always be preserved — there will be no compromise!

Our intent with this issue of the journal was not originally directed toward a theme, but in the course of its development, the idea of sound and music infused the overall contents of the current edition. We may note that the analysis of sound, and especially music, cannot be approached from a purely quantitative aspect—as with all topics discussed in our pages—the qualitative experience is of utmost import, and is bestowed here. Music, and sound, when engaged in a purely sensorial fashion, will educe a perspicacious familiarity untouched by the sterile ratiocination of modern acoustic analysis. It is hoped that the present journal will confer to its readers this spirit of affection.

This issue bears forth yet another fine article from Gerry Vassilatos in his ongoing series of biographies of celebrated borderland scientists. *The Physiophony of Antonio Meucci* reveals a great pioneer in the arts of communication and energy production. Yes, Meucci did invent the telephone.

Meanings, Messages, and Signals, is an article which attempts to define for us the differences between analog and digital recording media. The depth of this article is truly astounding in its qualitative scope, for here we not only have before us an entire history of the recording industry's media motivations, but are given a complete radionic inquiry into the diverse forms of the recorded format.

Vocal Motors was compiled for this issue from the pages of Gerry Vassilatos' *Vrtil Compendium*. The 'sound mills' of Dvorak to the vocal motors of Thomas Edison are presented with plenty of useful facts toward their construction.

Judith Hill once again graces our pages with the article, *Octaves of Time*. Presented for the first time (as far as we are aware) is a treatise on the mechanism of astrological progressions. While there is much information on how to use progressions, there simply hasn't been any "why" and "how". Her proposal is that a resonance between two precise moments of higher and lower octaves of time is the theoretical basis of astrological progressions.

From here our musical theme departs into other areas of discussion. E.D. O'Brian gives an excellent thesis on the nature and use of "APEMS", or Pyramids and Cones, and Michael Elsey furnishes us with the report on our 1995 expedition to the underground tunnels near Mt. Shasta, California. My thanks to Michael Elsey for the invitation to be a part of this expedition.

As a final matter of announcement, the Borderlands BBS is no longer in operation. We are now on the World Wide Web at: <http://www.asis.com> and virtually everything that was obtainable via the BBS has been moved here. If you are on the Internet, please investigate our new "home page".

Michael Theroux
Editor

Clips, Quotes, & Comments

Barcode Toxicity

On the barcode matter (2nd Qtr, 1995): Peter Lindemann's article corroborates empirical findings reported a year ago in "EMF, ELF, and Cold War Nuclear Guinea Pigs," by Jim Martin from Fort Bragg, California, in the #11 issue of his publication, *Flatland*. In measurements taken around town at a dozen various locations, the barcode reader at a supermarket checkout stand had far & away the highest EMF reading. Martin writes:

"Here are some sample readings. Safe, background levels of magnetic fields that are consistent with the earth's normal emissions are around 0.5 to 1.0 milligauss (MG) Borderline readings occur at 1.0 to 3.0 MG, and high levels begin at 3.0 MG. (Readings are in milligauss)":

Automobile Driver's Seat	7
Passenger Seat	4
Back Seat	2
Main St., Ft. Bragg	0.5
Macintosh Plus VDT	15
Automatic Stamp Machine Post Office	8
Automatic Teller Machine	8
Arcade Video Game	100
Xerox Machine	100
Safeway Refrigerated Isle	8
Harvest Market Meat Case	75
Harvest Market Fish Case	4
Barcode Reader at Checkout	200
Big River Substation (Elem. School)	0.5-7

Of course, electromagnetic field radiation is something altogether distinct from radionic signature. But by noting both Martin's and Lindemann's findings, one sees how the two effects combine rather deleteriously in the operation of the barcode laser scanner on its "target."

Personally, I am dismayed to see the ubiquitous barcode now blighting BORDERLANDS journal, as it represents yet another arguably significant compromise in the service of commercial imperatives, this time "mass distribution." Please don't mislead me; I understand it's probably a survival issue. But, must the "mark" desecrate the

front cover? On other products, it suffices to appear on their backsides. Even cattle aren't branded on their faces.

— Ron Stinnett, Santa Rosa, California

We have confirmed many of these EMF readings ourselves. As for the ugly barcode on the front of the magazine, it is an unfortunate but necessary step toward the proliferation of our material, but do remember, that we have also provided the tools with which to neutralise them.

The Fountain of Youth???

I was extremely disappointed with your running a full page ad for GH-3 ("Reversing the Aging Process", 2nd Qtr, 1995). Those pills, along with GH-7, have been pushed in junk mail for years. I tried them, and here are my results. First, they are very expensive, addictive, and if you ever quit taking them you will have very severe withdrawal symptoms that include: nervousness, severe depression to the point of suicide (Dr. Aslan's partner committed suicide in Canada in 1985), constipation, body cramps. The longer you are on them (GH-3, GH-7), the more severe they are. The company which produces the pills in the Canary Islands used to tout Ronald Reagan as the prime proof of how good they are. Ronald Reagan is now dying of Alzheimer's Disease. I wrote the company three times asking the aluminum content and was only sent back sales ads, never an answer. Withdrawal symptoms are a side effect, and since you have side effects, that means the product has never been perfected. If a person wishes to take euphoria in a pill (GH-3 and GH-7) that is their business, but they'd better have a lot of money, plan on taking them in increasing doses for the rest of their lives, and not worry about long term results, as Ronald Reagan did. Taking pure aloe vera, neither pasteurized or concentrated, works better and has none of the addictiveness or side effects. Aloe has cured my arthritis, bursitis, and lower back pain, which doctors claimed there was no

cure for. Please, no more ads for quack medicine! Quack medicine is anything that has a side effect, which means experimental only, not 100% proven safe! A final note on the addictive drugs GH-3 and GH-7: after years of battle, it is approved for sale, not manufacture, in this country. Because of its dangerous side effects (withdrawal symptoms), I feel it should be removed off the market until that major problem is solved. I tried it for three years, I know firsthand and have helped over 80 people get through the withdrawals.

— name and address withheld

While we would agree with your statements about what should be considered "quack medicine", this was not a "full page ad" for the products — it was simply the author's opinions on the subject in an article he wrote for the magazine.

Tesla's "Self-Acting" Engine

Regarding your article by Peter Lindemann on Tesla's "Self-Acting" Engine, he didn't mention the Engine developed by Dennis Lee. In the event that you haven't seen it (it just came out early this year), I have enclosed a copy. They have also accomplished Tesla's conception, in a seemingly simple fashion.

— Dr. A. Luethe, Eugene, Oregon

Peter replies:

Thank you for your letter and a copy of the article entitled, "The New Engine Cycle and Low Temperature Phase Change", by Dennis Lee, from the Jan. '95 issue of *Extraordinary Science* magazine. I had not seen this article when I wrote my article, "Tesla's Self-Acting Engine" which appeared in the third Qtr. issue of BORDERLANDS. There are a number of reasons that I didn't mention "the engine developed by Dennis Lee" and I don't mind going over them now for the benefit of you and all our other readers. We at BSRF believe that if you do not understand the past, you will never understand the present.

Let me first make a few comments on the article itself. It claims to have been authored by Dennis Lee, but it speaks of him in the "second person" on a regular basis. From this I assume that the article was actually written by some un-named person who compiled information from a taped interview with Dennis Lee, and then gave him

BORDERLANDS CQC

the credit for it. Due to this literary vagueness, it is nearly impossible to determine exactly what has been said by whom.

The information in the article about the technology is fairly good, and it does a reasonably good job of laying out more of Dennis Lee's story than I have ever seen in print. The story itself is not new to me, however, and does include a few glaring omissions. I first met Dennis Lee in 1988, at the height of the development of his technology. In this sense, nothing in the article is new. At that time, his office was in Ventura, California, and his company was called C.O.N.S.E.R.V.E. Financial Services. Shortly thereafter, he was arrested, tried, found guilty, and served jail time for running an "investor assisted marketing plan", which is illegal in California. The article in *Extraordinary Science* states that "at one time, he had a personal net worth of over 50 million dollars." This statement is not true, but it does illustrate the reason why Dennis Lee went to jail. He never understood (and apparently still doesn't) the difference between "his personal net worth" and the thousands of dollars that tens of thousands of his investors were investing into his project. An "investor assisted marketing plan" is a situation where money received from investors is used primarily to solicit more money from more investors. It is like selling an infinite number of shares of stock in a company. C.O.N.S.E.R.V.E. Financial Services was raising millions of dollars and using it to raise millions *more*, without increasing the net worth of the company. This is illegal in California (luckily) and Dennis Lee went to jail for this. Unfortunately, almost 100,000 investors lost \$5,000 each. The reason I know about all this is that I was one of those investors, and I had a long talk with one of the assistant District Attorneys prosecuting the case.

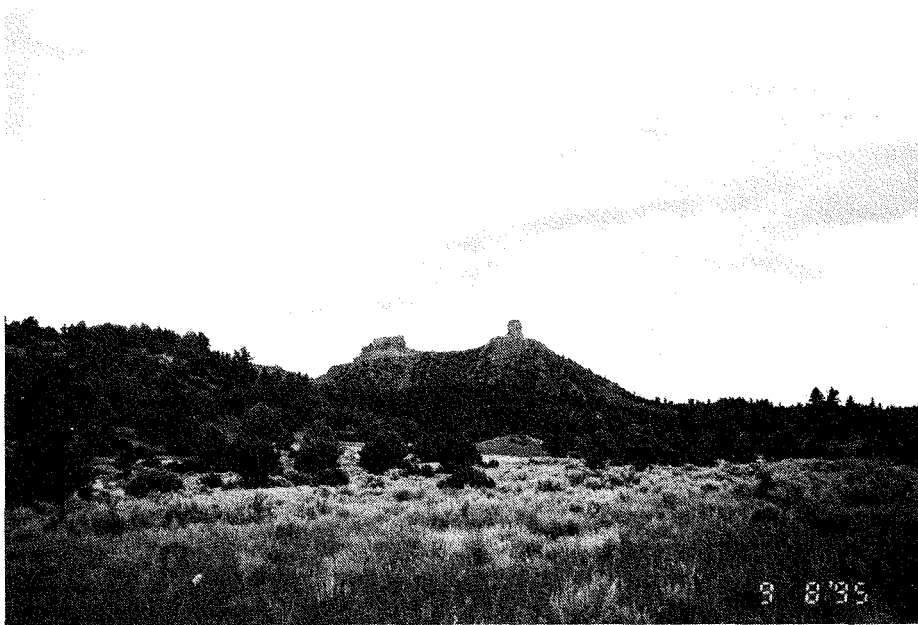
This is not the story of a great social crusader being suppressed by the invisible monopoly interests. It is more likely, the story of a "true believer" who talked 100,000 investors out of their money, only to dissipate it, unwittingly, in illegal business practices. I guess, Dennis Lee could be called the "Jim Bakker of alternative energy." I don't know whether Dennis Lee willfully

defrauded his investors. I do know that he loosely traded enthusiasm for facts. Our investment package was represented to us to include "everything we would need" to manufacture and install one of his systems, including lists of suppliers and detailed plans. It did not even come close to having that level of information in it. The fact is, that 100,000 people were defrauded and permanently separated from their money, and Dennis Lee was "at the helm". He paid a high price for that. Jail time is not a fun time. At this point, he is bitter, and likes to blame others for the consequences he had to endure for not properly executing his legal responsibilities when he had them. He gets no sympathy from me. It is my personal opinion that Dennis Lee has done more to retard the development of Low Temperature Phase Change technology than any invisible conspiracy ever could. I don't think he has ever done anything significant enough to be suppressed.

But there is still another problem. Dennis Lee, and many others like him, conceive of the world in a very one-dimensional way. They see the "greedy conspirators" controlling the world, suppressing at every turn the "inventor-hero" who is ready to "free the

masses" with his "free energy machine." This is a fantasy. First of all, the masses want "their MTV", not freedom! Second, most would-be "inventor-heroes" can't even run a small business, much less spearhead a social movement. Third, most "free energy machines" don't work!

The facts are these: 1) the "greedy conspirators" pretty much already OWN THE WORLD, and most National Governments do not even oppose them. 2) Like it or not, we have all grown up during a period of relative, social stability, during which these people have consolidated their near total grasp of WORLD POWER. (Exxon is the largest corporation in 51 countries, including the USA.) These forces continue to allow change to occur under a strict set of conditions that: 1) keep them in control and 2) maintain a reasonable sense of SOCIAL ORDER. This is not about JUSTICE. This is not about FAIRNESS. This is about POWER; who has it and who does not. As long as we don't try to DO ANYTHING that disrupts the social order (their control), we are free to eat twinkies and burgers and imagine a better life. The alternatives are not pretty. Beirut, Lebanon, and Sarajevo, Bosnia used to be nice places too, but



Beam of energy "raying" toward the heavens from Chimney Rock near Chacc Canyon — Photo submitted by Jerry Crnich.

SOCIAL ORDER broke down there. The release of a "free energy machine" cannot "free the masses", it simply tears apart the social fabric and plunges the society into an ALL OUT POWER STRUGGLE. These radical changes ARE COMING to America anyway, sooner than most people think. When they do, Dennis Lee will not have made a difference.

The *Extraordinary Science* article represents Dennis Lee as the brilliant developer of this technology. This is, sadly, only Mr. Lee's imagined place in history. On the other hand, my article clearly documents that Nikola Tesla invented the process and that Rudolf Doczekal tested and proved the condenserless heat engine cycle. All of this was accomplished 60 years ago. Dennis Lee did not invent, or develop, or prove, or make available, any of this technology. These are among the reasons I did not mention him in my article. Thank you again for your letter.

Stubblefield & Earth Energy

In sending these comments on Gerry Vassilatos' article on Earth Energy/Nathan Stubblefield (3rd Qtr, 1995), I am responding to his commendably-stimulating presentation, the kind that merits commentary. My aim is not to snipe at small points of disagreement, but hopefully to add clarity through dialogue on key points. The Vassilatos-concept I basically disagree with is his view of the ether as a passive medium, similar to the belief of the Victorian-era ether-drift theorists. I think the ether is energetic, a conviction based on a rationale too extensive to go into here. The first point of contention is Gerry's unqualified assertion, "The slow solar discharge (of ground-penetrating solar energy) represents the enormous drift of ether through the entire body of ground." This statement is without corroboration and excessively dogmatic. Radionics researchers may be closer to the truth than academicians, but that doesn't automatically make them final authorities in comprehensive theoretic areas. Later on Gerry admits that, "We do not know the secrets of the earth charge (Nathan Stubblefield was working with)."

Secondly, in speculating on the possible

origins of Stubblefield's electrical ground energies, Gerry discusses some of Tesla's statements on the possibility that solar energy is the source of such energies. He uses those statements to support the idea, and further cites "some (other) researchers" who "believed that the vast electrical ground reservoir finds its source in the solar efflux." In my opinion, the sun's observed role in eliciting earth-energy effects is as a "descending" magnetic inducer of rising, much-stronger, deep earth energy fields. I submit that such energies are all predominantly etheric, with the ability to down-resonate to the electronic-scale-particle-mediated level of energy. Gerry, grounded in, and by, the "passive ether" concept, fails to mention this as a possible mechanism for the solar effect.

— Michael Baran, Brockton, Massachusetts

Gerry replies:

It has become apparent that several readers have not completely comprehended the essential difference between Æther and Vril. This recapitulation will serve as an encouragement toward some mutual agreement of terms.

Vril is the black radiant generative space from which all created things emerge and in which they develop and permute. No one who has experienced the black radiance can detract from my statements.

The experiential science on which these facts have been based is one requiring an experience. This is my credential and claim. The experience is the very center and base in which all of ancient science is comprehended. Experience is the basis of all radionic science, the qualitative validation of human existence.

No defense is necessary on my part, since I accept subjective experience as a special and immediate access to world-junctions which can never be approached through quantitative interface.

In addition to this subjective "panache", I can draw forth numerous experimental proofs which do defend my so-called "unjustified" statements.

While one may, with sensitive care, find natural places where black radiance emerges from the subterranean deep, most persons

require an instrumentality for both drawing up and magnifying Vril.

As mentioned throughout my articles, experience of the black radiance can best be secured only through special grounded radionic instruments. Without these, each of my statements will seem "dogmatic", and those unexperienced readers will respond with brusque and argumentative dialogue.

Once experiential contact with the black radiance is established, however, a new consciousness enters the fund of experience. It is only then that one becomes aware of a Vril "world-structure", a visual experience. One speaks from experience and not abstraction when one says that certain portions of our world-experience are ephemeral projections or "casts", changing upon the fixed foundation.

What is Vril, and how does it differ from Æther? It is first imperative to understand that Vril is so much more than a physical entity. Vril does not have the normal physical limitations of terrestrially experienced elements or energies.

Vril is constantly growing, pulsating, and expanding in a vast matrix of veinlike rays. Vril crosses and re-crosses this matrix, surmounting its previous creations.

In the very distant past, space was contaminated by an occlusive presence. The contaminant was identified in the ancient sciences as "vacuum", and in the Eighteenth Century as "inertia". Inertia defies, resists, and distorts Vril dynamics, so that biological activity finds space an obstacle course of expression.

Nevertheless, new Vril threads manifest throughout inertialized space, maintaining continuance of consciousness. It is Vril therefore which both precedes all created manifestations and makes incursions through the contaminated space in which we experience.

In the terrestrial space, Vril is experienced as clusters in very specific shaftways. These connect space and subterranean ground. The ancients mapped these shaftways in their astromantic studies.

When we experience, we are intersecting veins which proceed forth from these central shafts. The vitalists probed the life energy with progressive depth. Each dis-

covery brought them closer to the heart and core of vital energy. Black Radiant Vril is the deepest core of generative space yet identified in history.

What do these thready black radiant shafts produce besides the dioramas, biological niches which we know as world-anatomy? Are there other manifestations which accompany the processional pulsation of living Vril in inertialized space?

Æther is the glowing by-product, exuded from inertial space by the piercing presence of Vril threads. Æther, of itself, is inert. Æther has no more a formative power than any crude elemental gas does. Æther, however, is the beginning of an accretion process which ultimately expresses itself as fixed electrical charge. Where there is densified æther, there will be electrostatic charge formation *ex nihilo*. It is therefore obvious that where Vril threads most intensely penetrate inertial space, electrostatic charges will surround and project from the space.

Æther simply conforms with dynamics which Vril establishes, tenaciously flowing outward and along its threadways. The Æther is, therefore, neither world-fundamental nor formative in action.

Solar æther is absorbed continually into the ground because it flows down along Vril shaftways which proceed from the sun.

Solar æther manufactures an electrostatic charge in the ground as it proceeds

from the solar body itself. The sun is the source of this electrostatic charge, and can be best absorbed through radionically entuned means.

This æther-to-electrostatic charge manufacture process was utilized in the radiant energy device of Nikola Tesla, a grounded capacity system which absorbed prodigious electrostatic charges directly from incoming solar æther. Dr. Gustav Le Bon demonstrated the complete reversal of this process when the solar efflux converted metallic elements directly into electrostatic charge... "a radioactivity exceeding that of radium". These and other historical demonstrations are corroborated by many other examples.

The Rediscovery of Vril

I read the interview with Gerry Vassilatos by Michael Theroux in the third quarter, and found it very interesting.

I wonder if either of them have ever read the book The Man of Light In Iranian Sufism by Henry Corbin. I don't have a copy of it now, but in it there are fascinating passages about the "Black Light." I recall that some of the "mystics" considered this Black Light to be the ultimate "Light of Creation;" that the Black Light "precedes" all other light; and that it is somehow related to the "great poles of being." There are other wonderful ideas concernig this "Black Light" in that book.

The book is available in most college libraries, to my knowledge. Thank you.

- Peter Schenck, *Wind Gap, Pennsylvania*

Your article "The Rediscovery of Vril", in the latest issue of BORDERLANDS, was very well written and fascinating. You may have seen my article on page 22.

For years I have done research and teaching in plant science at Texas A & M University (retired in 1985), so your description of research into Vril was of great interest. I would like to look into a research project involving the use of Vril in plant growth. Do you have any suggestions?

You mention a 24-dial radionic tuner as a consciousness elevator. How does it work? How is it used? Do you have any clinical data in this area?

- William Peavy, *The Institute For Abundant Living, Albuquerque, New Mexico*

Gerry replies:

How very fortunate I am to receive such courteous responses and inquiries to my work in this fascinating study area!

Why do plants seek for ground? Is it their quest for water or mineral flow? Suppose we take a plant and supply these two material nutrients. Is there another reason why plants so actively and aggressively seek ground?

Each ground-separated plant not only searches for ground, but will absorb Vril energy at specific radionic "points". Each ground-separated plant requires its own Vril pattern current, drawing its required current from a grounded variable capacitor without connections across space. I state these as facts. Facts, as with all of my previous statements, because they are all based on empirical findings.

We can enter dialogue reasonable on these subjects through the empirical discoveries made throughout the century by notables such as Bose, Hieronymus, De LaWarr, Backster, Lawrence, and others. Each of these researchers found that plants engage in dynamic conscious dialogue with the ground and other beings.

While these researchers showed that plants which are separated from their ground go into "shock", they rarely performed experiments designed to prove the ener-



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getic ground source on which plants rely.

Very recently, Michael Theroux obtained several Biosensors from a local Radio Shack. The find was truly intuitive and providential, since we had been seeking some means for obtaining bioresponsive indications. With these devices as (in Michael's words) a "poor man's polygraph" we were able to conduct a series of experiments with plants and plant responses. The device is inexpensive, of good quality, and currently being discontinued. It is suggested that you attempt securing several of these while the dwindling supply lasts.

The unit, made by Micronta, converts galvanic skin response to an audio signal. It registers tension responses as a sudden increase in pitch. Tranquility produces a lowered pitch state, the idea of the Biosensor is one of personal stress-management.

First in the series were the classical experiments performed by Bose (1919) and Cleve Backster (1966). Michael and I have found several different phenomena at work in these regards. Results of these singularly remarkable experiments and our composite findings will be published in some forthcoming issue.

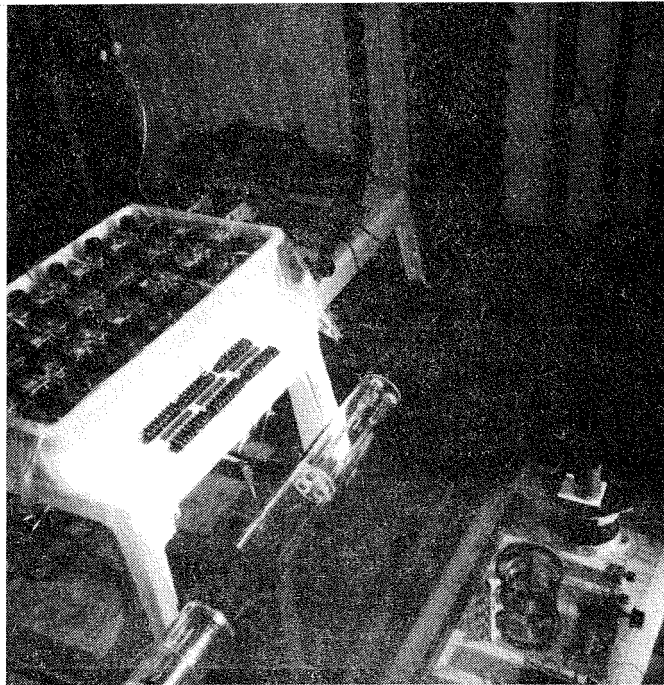
In order to answer your question, I will offer a recent finding which has revolutionized my view of radionics. While performing experiments designed to objectively prove the reality of radionic instrumentation and "rates" (radionic current points), I made a startling accidental discovery.

In a simple experimental arrangement, I took a plant from the ground, positioning it in a delicate brace on a small table. In this position, erratic movements were eliminated. I wet the roots and attached the two Biosensor leads to the roots at two different points. In the plot of earth beneath my lab window I drove in a short copper ground rod.

To this, I attached a lead wire, drawing it onto the laboratory table. This lead wire was attached to the fixed plates of a large

variable capacitor. I connected the roots of the plant to the rotor terminal of the variable capacitor. In essence, I had created a plant "triode", where the Biosensor circuit was being modified by a Vril monopole.

An audio baseline was established by adjusting the gain control until a steady signal was obtained. One must be patient during this experimental phase, since the plant goes into "shock" with an increased tension response producing an ever mounting pitch. Lowering the gain until the "constant pitch" is secured, one begins to



"Nitrogen pulsator" from the laboratory of Gerry Vassilatou

notice the plant's response to the experimenter's presence.

It is here that plant sensitivity across space is observed, the fascinating discovery made by Bose early in the century. The significance of this find cannot be underestimated since it represents a new energy form, proving the existence of telepathic rays—plants respond to the slightest projected meaningful image. The sudden thought of water, of sunshine, or of disconnecting the plant from the irritating Biosensor is accompanied by an immediate pitch elevation.

Once the baseline is established, there are a few moments in which the plant tissues will respond with force and sensitivity. During this time the Biosensor will reveal any energetic exchanges between the plant and the environment. With the capacitor in the "opened" position, I very gradually closed the vanes.

Gradual movement is the key in this experiment, since plants are not "on-off switches". Being living systems, they require time to respond, always revealing a latency period just before and after response. I noticed that several fixed points could be found and marked at which the plant elicited a "thrill response". Slowly moving the vanes in a continuous sweep, I found several points at which the thrill response was registered. Testing these positions, I found them to "hold" well over an hour's time. I therefore took them to be fixed current points.

Each rate produced a different thrill response, the plant preferring the Vril currents from one of the four points I found.

That plants will take any available Vril current was accidentally found when I carefully disconnected the braced plant from the capacitor without moving it. The plant at once became depressed, producing a continually decreased pitch until I reattached the capacitor. Again, the radionic current positions were located as they were before; pitch increases indicating vitality.

Again, I removed the lead wire from the capacitor. The plant again depressed.

But it was not until I performed this last modification that I comprehended just how aggressively the plant would search for ground. I brought the variable capacitor near the plant, but did not connect it to the roots. I gradually began adjusting the capacitor to its required current points, when suddenly the plant shrieked! The wail which the plant made was piercing, an "hysterical" response which increased when the vanes were carefully brought closer to the roots.

BORDERLANDS CQC

Here, it became apparent that the plant was simply drawing its own combinations of currents freely and directly from ground.

Neither would the plant cease from this hysterical and thrilled state until I removed the grounded capacitor entirely from the experimental area. The tone did not change until I connected the free capacitor terminal to a grounded vent duct. In a gradually wavering tone, the plant pitch plunged into a typically depressive state once again.

The response of the plant to Vril currents is obvious, requiring more experimentation among wide ranges of plant species. Certainly the thrilling work of T. G. Hieronymus in constructing "Cosmic Pipes" represents one of the first revolutions in this effort. The Pipes are ground-placed among crops, providing a rich Vril current supply and possibly adjusting their supply as the plants require.

Along with the naturally derived mineral nutrients prescribed by the pre-Industrial farmers, increased plant growth will be

secured when specific Vril currents are supplied. If it is to survive the hostile modern environments, Vril as a nutrient will become ever more the theme of a future agricultural science.

A brief mention concerning mind elevation. It is possible to use the assembly which I have just described, with slight modifications, to obtain heightened mindstates. One must first obtain a mica transmitter capacitor, placing it between the ground wire and the variable capacitor. This mica capacitor blocks any deadly ground emerging inertial currents. Once this is done, one can grasp and instrument the variable capacitor terminal.

Personally required Vril currents will be located at fixed positions, noticed as sudden reductions of negative emotions and muscular tensions. In addition, one will receive very delicate eidetic visions at specific points. A better instrument for performing these personal experiments will appear in another issue of the Journal.

The Five Rites

This is a reply to Jeff Brookner of LA area on the Tibetan Five Rites, where he questions shaking and energy.

In regard to the shaking Jeff Brookner mentions, you may be releasing Kundalini energy or just a muscle twitching from normal "CHI" flowing. If you also do "yogic breathing" (alternate nostril breathing) this is a known way to release the powerful Kundalini at the base of the spine. The typical stages are sweating, then shaking and then tremendous energy flow with possibly bright flashes of light. Fully releasing this energy is not recommended without the help of a trained yogi or adept.

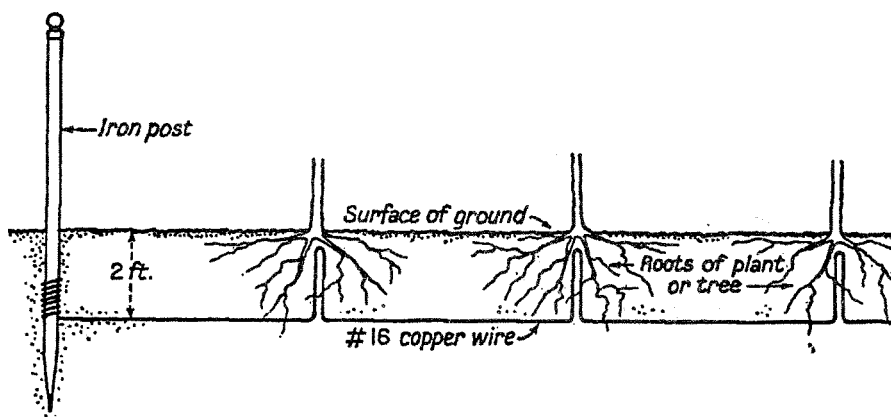
However you may be one of the five to ten percent of the population that shake or muscle twitch when the Chi or bioenergy flows through the NADI's. I have this phenomena and when I flow Reiki or other healing energies out the hands, I twitch a little (sometimes more than others) this is where the names for groups that did laying on of hands came from. The Shakers twitched this way and the Quakers looked like a California earthquake took hold of them.

If what you are experiencing is Kundalini it is a much more powerful energy form and can cause physical, mental and emotional damage if not handled right with proper guidance. Perhaps you do not want to have this happen and can reduce the frequency of the five rites. Another alternative that I have come to love dearly is to follow Mantac Chia's works and loop it over the head with the tongue to the top of the mouth. This brings the Chi in a natural loop up the back and down the front of the body called the Microcosmic orbit and has many advantages. I believe some of his books are available from Borderland Sciences.

— Kieth Rector, Santa Cruz, California

Awaken Healing Light of the Tao is available from BSRF for \$16.95 + P&H.

*Keep those letters, photos, and clippings coming! Please write to **Borderlands CQC**, P.O. Box 220, Bayside, California, 95524 USA. Letters may be edited for length and clarity.*



The diagram above is from George Starr White's *Cosmo-electric Culture*, 1940. Dr. White describes several experiments with plants connected to grounded metal rods. Dr. White found that he could improve the growth rate, quality, and number of flowers on potted plants as well, by running copper wires from the earth in each pot, to a "lightning" rod driven three feet or more into the ground. One ground rod will feed many pots. The contrast between the plants in the pots with grounded earth and those in pots left without the ground, was marked, indeed. Dr. White's interpretation of this phenomenon is that there are certain energies in the earth which can be conveyed by metallic conductors to the plants, and will serve to strengthen the life energies of those plants. Several similar experiments have been reproduced at BSRF with identical results. More information on Dr. White's experiments with plants may be found in the book by Mark Gallert entitled, *New Light on Therapeutic Energies*, and published by BSRF.

Hearing Through Wires

The Physiophony of Antonio Meucci

by Gerry Vassilatos

ANTONIO Meucci is the forgotten and humble genius whose inventions precede every revolution in communication arts which were achieved during this century. The time frame during which his notable discoveries were made is a most remarkable revelation. How Meucci developed his accidental discoveries into full scale working systems is a true wonder in view of this time reference.

The culturing of technology from the simple sparks of vision is a feat of its own distinct kind. As the earliest chronicled inventor of telephonic arts he is justly applauded as the true father of telephony by aficionadi who know his wonderfully touching biography. But he invented far more than the telephone with which we are familiar. Meucci discovered two separate telephonic systems. His first and most astounding discovery is known as physiophony, telephoning through the body...hearing through wires. His second development was acoustic telephony, preceding every other legendary inventor in this art by several decades.

Meucci powered telephones with electricity taken from the ground through special earth batteries, and from the sky by using large surface area diodes to draw static from the air. Eliminating the need for employing batteries in his telephonic systems, Meucci first conceived of a transoceanic vocal communication system. His notion was grand and achievable. Marconi later employed methods pioneered by the forgotten Meucci. He developed ferrites, with which he constructed true audio transformers and loudspeaking transceivers. He invented marine ranging and undersea communication systems. His numerous achievements in chemical processing and industrial chemistry are too numerous to mention in such a brief treatise. All of these wonders were conceived and demonstrated well before 1857.

Sr. Meucci was a prolific inventor, engineer, and practical chemist. Living in Florence, he worked as a stage designer and technician in various theaters. Antonio Meucci and his wife left Florence to flee the violence of the civil insurrections which raged throughout Italy. Many immigrants who wished for a peaceful life thought they might find some measure of solace in the New Land which lay to the west.

Unhappily restricted by law from entering The United States, persons such as Meucci and his family chose the route into which most other Mediterraneans were forced at the time. Being turned



southward, they were literally compelled to dock in Caribbean or South American ports. There sizable populations of European immigrants remain to this day, legally restricted from North American shores. Most found that their presence there was received with an acceptance and warmth equal to a homecoming. It should have been in these lands that their legacies were written. New arrivals in Cuba, the Meucci family made Havana their home. They found the warm and friendly nation a place for new and wonderful opportunities. Sr. Meucci pursued numerous experimental lines of research while living in Havana, developing a new method for electroplating metals. This new art was applied to all sorts of Cuban military equipment, Meucci gaining fame and recognition in Havana as a scientific researcher and developer of new technologies.

Several special electrical control systems were designed by him specifically for stage production in the Teatro Tacon, the Havana Opera. Electrical rheostats served the safe and controlled operation of enclosed carbon arclamps. Mechanical contrivances hoisted, lowered, parted, and closed heavy curtains. The automatic systems were a wonder to behold.

A young and dreamy romantic, Meucci found the beauty of theater work quite entrancing and inspirational. There, dreams became realities, if only for the short time during which hardened pragmatism was suspended. Fantasy and wonder were magickal liquids which perfumed the soul and opened the mind's eyes. As in childhood, one could receive the elevating epiphanies of revelation necessary for discovering unexpected phenomena, and for developing unequalled technologies.

The decision to move to Havana was indeed a good one. Genuine acceptance, and loving recognition added joy to the lives of the bittersweet exiles. Meucci's wife was often amused by his more outlandish inventive notions. But, as their stay in Havana continued, she scolded that he had better develop something solidly practical on which to "make a living".

A long time fascination with physiological conditions and their electrical responses, Meucci was prompted to begin study of electromedicine. With just such a practical view in mind, he established and maintained an experimental electromedical laboratory in backrooms of the Opera House. Investigating the art of "electro-medicine", as popularly practiced throughout both Europe and the Americas, Meucci investigated the curative abilities of electrical impulse. Applying moderate electrical impulses from small induction coils to patients in hope of alleviate illness, Meucci learned that precise control of both the "strength and length" of electrical impulse held the true secret of the art.

As viewed by Meucci, pain and certain physical conditions were treatable by these electrical methods provided that very short impulses of insignificant voltage were employed. Impulses of specific length and power were necessary to rid suffering patients of their pain. In addition, Meucci imagined that tissue and bone regeneration could be stimulated by such means.

What really intrigued Sr. Meucci was the length of impulse time involved in body-applied electricity. To this end, he developed special slide switches which were capable of specifying the impulse length. It was possible to slide a zig-zag contact surface over a fixed electrical source. By varying the spacings between such slide contacts, Meucci could mechanically generate very short electrical impulses.

Rheostats could also be employed to control the current intensity. By the employment of these two control features, he was able to apply the proper impulse "strength and length". Meucci wished to chart a specific impulse series which would neutralize each specific kind of pain or

illness. Developing catalogues of electrical impulse cures was his real aim. Such a technology, if developed thoroughly, could arm medical practitioners with new curative powers.

Sr. Meucci applied continual experimental effort toward these medical goals. He often applied these same impulses to theater employees and stage artists alike. These people came to regard such electric cures as definitive. Meucci's method was known to reverse conditions completely. He paid special attention to the placement and size of electrodes on the body. Tiny point-contacts were often held to the body at specific neural points, effecting their analgesic effects. He was especially careful with "shock strength", applying only millivolt surges to his patients. Pain could be gradually made to retreat by the proper impulse administration.

Meucci had already developed fine rheostatic tuners for limiting the output power of his electrical device. He always applied the current to his own body in order to give completely "measured" electro-treatments. In this manner he was able to judge the parameters more personally and responsibly.

It was his habit to administer treatments of this kind to his ailing wife, Esther. Crippling arthritis was becoming her personal prison, and Sr. Meucci wished to cure her completely of the malady. Watching and praying through until the dawn, Antonio struggled to perfect a means by which cures could be effected with selective impulse articulation.



As with each of Meucci's developments, the fulfillment of his advanced medical ideas are found throughout the early twentieth century. Each researcher in this field of medical study employed very short impulses of controlled voltage to alleviate a wide variety of maladies. Independently rediscovering the Meucci electro-medical method throughout the early twentieth century were such persons as Nikola Tesla, Dr. A. Abrams, G. Lahovsky, Dr. T. Colson. Each developed catalogues by which specific impulses were methodically directed to cure their associate illness. Each researcher developed a method for applying impulses of specifically controlled length and intensity to suffering patients, effecting historical cures.

More recently, several medical researchers have employed impulse generators to effect dramatic bone and tissue regenerations. They affirm that human physiology responds with rapidity when proper electroimpulses are applied to conditions of illness. These were closely regarded by government officials, eager to regulate the new science.

Most medical bureaucrats, fearing the elimination of their own pharmaceutical monopolies, sought opportunity to eradicate these revolutionary electromedical arts. Upton Sinclair obtained personal experience with these curative systems and the physicians who devised these methodologies. He championed their cause in numerous national publications with an aim toward exposing those who would suppress their work.

Sinclair pointed out the social revolution which would necessarily follow such discoveries. He was quick to mention that proliferations of new technologies would not come without a dramatic battle. Fought in the innermost boardrooms of intrigue, Sinclair underestimated the ability of regulators to eradicate technologies of social benefit.

This notable literary personage wrote extensively on the work of Dr. Abrams, who was later vilified by both the FDA and the AMA. An outlandish national purge quickly mounted into a fullscale assault on these methods. But this is a story best told in several other biographies. Meucci's electromedical methods would soon be transformed into a revolutionary means for communicating with others at long distances.

SHOCK

The most central episode of Meucci's life now unfolded. It was to be a serendipity of the most remarkable kind. Throughout his later years, Meucci recounted the following story which occurred in 1849, when he was forty-one years of age. A certain gentleman was suffering from an unbearable migraine headache. Since it was known to many that Meucci's electromedical methods possessed definite curative ability, Sr. Meucci's medical attention was sought.

Meucci placed the weak, suffering man on a chair in a nearby room. His weakened condition inspired an easy pity. Antonio had already felt the thorns of his beloved wife's pain. Her eyes, like the man before him now, begged for the cure which lay hidden in mystery. Carefully, caringly, Antonio now sought to ease this man's suffering.

In this severe instance, Meucci placed a small copper electrode in the patient's mouth and asked him to hold the other (a copper rod) in his hand. The electro-impulse device was in an adjoining room. Meucci went into this room, placed an identical copper

electrode in his own mouth, and held the other copper electrode to find the weakest possible impulse strength. Meucci told his patient to relax and to expect pain relief momentarily, making small incremental adjustments on the induction coil.

Migraines of severe intensity characteristically produce equally severe reaction to the slightest irritation. The man being now highly sensitive to pain, Meucci's insignificant (though stimulating) current impulses were felt. The patient, anticipating some horrible shock, cried out in the other room with surprise at the very first slight tickle.

Momentarily, Meucci forgot the hurtful sympathy which he naturally felt in assisting this poor soul who sat across the hall. His focussed attention was suddenly diverted as an astounding empathy manifested itself: he had actually "felt" the sound of the man's cry in his own mouth! After absorbing the surprise, he burst into the adjoining room to see why the man had so yelled. Glad the poor fellow had not run out on him, Meucci replaced the oral electrode of his suffering patient and went into the other room to perform the same adjustments...through closed doors this time. He asked the gentleman to talk louder, while he himself again held the electrode in his mouth.

Once more, to his own great shock, Meucci actually heard the distant voice "in his own mouth". This vocalization was clear, distinct, and completely different from the muffled voice heard through the doors. This was a true discovery. Here, Antonio Meucci discovered what would later be known as the "electro-phonetic" effect.

The phenomenon, later known as physiophony, employs nerve responses to applied currents of very specific nature. As the neural mechanism in the body employs impulses of infinitesimal strengths, so Meucci had accidentally introduced similar "conformant" currents. These conformant currents contained auditory signals: sounds. The strange method of "hearing through the body" bypassed the ears completely and resounded throughout the delicate tissues of the contact point. In this case, it was the delicate tissues of the mouth.

Each expressed their thanks to the other, and the relieved patient went home. The impulse cure had managed to "break up" the migraine condition. Meucci's reward was not monetary. It was found in a miraculous accident; the transmission of the human voice along a charged wire. In these several little experiments, Meucci had determined and defined the future history of all telephonic arts.

VOICES

Excited and elated Antonio asked certain friends to indulge his patience with similar experiments. He gave individual oral electrodes to each and asked that his friends each speak or yell. Meucci, seated behind a sealed door, touched his electrode to the corner of his mouth. As each person spoke or yelled, Meucci clearly heard speech again. Internal sound reception in the very tissues of the mouth. An astounding discovery.

Without question, Meucci's most notable discovery in telephonics is physiophony. Meucci did not foresee this strange and wonderful discovery. Think of it. Hearing without the ears. Hearing through the nerves directly! The implications are just as enormous as the possible applications. Would it be possible for deaf persons to hear



Meucci's house on Staten Island

sound once again? Meucci knew it was possible.

His first series of new experiments would seek improvement of the electrophonic effect. To this end Meucci designed a preliminary set of paired electrodes. The appearance of these devices was strange to both the people of his time and those of own. Each device was made of small cork cylinders fitted with smooth copper discs. Designed as personalized transmitters, each person was to place their own transmitter directly in the mouth! The other electrode was to be hand-held.

Meucci verified the physiophonic phenomenon repeatedly. Upon experiencing the now-famed effect, visitors were awed. Furthermore, it was possible to greatly extend the line length to many hundreds of feet and yet "hear" sounds. The sounds were clearly heard "in the nerves" with a very small applied voltage. Sounds were being deliberately transmitted along charged wires for the first recorded time in modern history.

The auditory organs were not in any way involved. Meucci discovered that oral vibrations were varying the resistance of the circuit: oral muscles were vibrating the current supply. Spoken sounds were reproduced as a vibrating electric current in the charged line which can be sensed and "heard" in the nerveworks and muscular tissues.

With very great care for obvious injuries, it is possible to reproduce these remarkable results to satisfaction. The voltages must be infinitesimal. When properly conducted through the tissues, sounds are heard near the contact point the body. No doubt, the impulsed signal reproduces identical audio contractions in sensitive tissues. This is one source of the sounds internally

"heard". Nerves actually form the greater channel when impulses are arranged properly, directly transmitting their auditory contents without the inner ear.

Physiophony is Meucci's greatest discovery, one which he should have pursued before also developing mere acoustic telephony. Twenty-five years later in America, an elated Elisha Gray would rediscover the physiophonic phenomenon. He would develop physiophony into a major scientific theme. Long after this time, these identical experimental demonstrations conspicuously appear in Bell's letters; copying the identical experiments taken first from Meucci, then from Gray, and Reis.

During the early twentieth century, music halls for deaf persons were once found in certain metropolitan centers. These recital halls enabled nerve-deaf persons to hear music through handheld electrodes. Modifying the appliances in order to allow considerable freedom of movement, several such places allowed deaf people to dance. Holding the small copper rods, wired to a network on the ceiling, musical sounds and rhythms could be felt and heard directly. Physiophony, more recently termed "neurophony" holds the secret of a new technology. Physiophony, rediscovered of late, facilitates hearing in those afflicted with nerve-deafness.

Meucci discovered two distinct forms of vocal communication: physiophony and acoustic telephony. Meucci's next experiments dealt with the development of a means for separating the physiophonic action from the human body entirely. He developed working systems to serve each of these modes, with primary emphasis on acoustic telephony. Replacing tissues of the mouth with a separate vibrating medium required extending the cork-fixed electrodes.

Meucci coiled thin and flexible copper wire so that it could freely vibrate in a heavy paper cone. Once more, Meucci varied the experiment. This time his own oral electrode would be enclosed in a heavy paper cone. Again each subject was asked to talk into the first cone-encased electrode as Meucci listened at the other terminal. Each time, speech was heard as vibrating air. This was his first acoustic transmitter-receiver.

Meucci wrote up all these findings in 1849...when Alexander Graham Bell was just 2 years old. Living in Havana at the time, Meucci conceived of the first telephonic system. He imagined that American industry would allow infinite production of his new technology. A telephonic system would revolutionize any nation which engineered its proliferation.

CANDLES

Freedom doors were not swung open in wide and unconditional welcome for Europeans during the latter 1800's. Strict immigration laws forbade Europeans from even entering New York Harbor. It was more difficult, if not impossible, to find employment. New arrivals in America faced difficult, almost inhuman conditions. No support systems existed in the land of free-enterprise. No catch-nets for failed attempts in the land of the free.

True and unresisted freedom was reserved only for the upper class, who had already begun regulating and eliminating their

possible competitors. Every means by which that prized upper position might be usurped was destroyed. Forgotten discoveries and inventions flowed like blood under the heavy arm of the robber baron.

The "New World" was not anxious to welcome these people. Discrimination against European immigrants went unbridled, unrepresented, and unchallenged. When American doors finally did open, there were no sureties for those who came to work and live in the New World. There was no promise, no meal, no housing, no job, no emergency support. To be in America meant to be on your own in America.

Prejudice against the "foreigners" was vicious during this time period. Immigrants who imagined a better life to the northlands would be sadly disappointed at first. Many of these newcomers preferred the temporary pain of atrocious city ghettos simply because their eyes were on the future.

Europeans arriving in America came with trades and skills. Master craftsmen and technicians in their Old World guilds, these "unwelcomed" eventually won the hardened industrial establishment with their good works, many of them later forming the real core of American Industry. It is not accidental that Thomas Edison hired European craftsmen exclusively. In less than two generations the children of these brave individuals became leaders of their professions, giving the leukemic nation its periodically required red blood.

Established families despised the newcomers, who were regarded first with dread, then with resentment, and finally with a firm resolve. After ruthless campaigns by bureaucrats and moguls to eliminate the foreign presence in North America, wealthy puritanical antagonists sought the supposed surety of legislation to achieve elitist isolation. Neither cultivated nor creative, this ability to manipulate the tools of liberty for the sake of domination became a theme which continually stains their history.

The unbridled and impassioned expansionism of these "foreign people" was so threatening to the impotent bureaucrats that legislation was installed for the expressed purpose of limiting their unstoppable movement. Sure that these were in fact the feared usurpers of a young and recently consolidated Republic, financiers impelled legislators to create a "middle class" economic stratum which has remained in force to this very day.

Bound to a life of tireless work and taxations, the children of immigrants no longer question the barriers to limitless personal achievement. While a very few wonder why their frustrations rarely allow escape into the true individual freedom of which America boasts, most simply satisfy themselves with banal consumer temptations.

Nevertheless, the "American" explosion in music, art, crafts, and technological arts followed the immigrants wherever they were forced to flee. When Antonio and Esther Meucci arrived in New York City, he was now forty-two. They made their home near Clifton, Staten Island.

Clifton was once a picturesque little town, nestled on a rocky ridge and surrounded by babbling brooks and lush forests. The year was 1850. The Meucci's acquired a large and spacious house, filled with windows. Golden bright sunlight flooded the home in which Antonio devised the technology of the future. The rooms contained numerous pieces of striking art nouveau furniture which

Meucci himself handcrafted. A beautiful four octave piano and several of these furniture pieces yet remain, the house itself having been declared a national monument.

His poor wife, now crippled completely, was confined to their second floor bedroom. It was there in Old Clifton that Sr. Meucci developed his "teletrofono". The device was successively redesigned and improved until several distinct and original models emerged. Mundane needs being the primary necessity, Meucci developed a chemical formula for making special chemically formulated candles and opened a small factory for their production. His smokeless candles earned a moderate income by which the small family could maintain their place in the New World. Throughout the long years to come, he also supported countless others who were in need.

He patented this smokeless candle formula, along with several other chemical processes related to his small industry. Soon, Antonio found that his candles were sought by neighbors, parish churches, and small general stores. He therefore took his devotions, and went into production of the same. Marketing the product locally, he was now again able to supply his experimental facility. This was his encouragement. The inventions began flowing again like rich red wine.

Meucci installed a small teletrofonic system in his Clifton house, as he had done in Havana. Esther Meucci was now completely crippled with arthritis. Connecting his wife's room to his small candle factory, Antonio could now speak throughout the day with his wife. The system lines were loosely wrapped up and around staircase banisters, through halls, across walls, and finally spanned the long distance to the factory building, naturally running slack in several locations.

Meucci made sure that the lines did not run tight in order to prevent wire stretching and cracking during winter seasons. In every model aspect, Meucci's system was the prototype. Everyone of his surrounding neighbors had become personally familiar with his system, having been allowed to try "speaking over the wire."

Meucci and his wife took boarders from time to time in order to afford minimum luxuries...the luxuries of ordinary people. When Garibaldi was exiled from Italy as an insurrectionist, he sought out Meucci. A small factory was established near his home for the manufacture of his chemically treated candles.

With this, his sole and sturdy financial source, Meucci continued his other beloved experiments. He had already established and regularly used several teletrofonic systems throughout his home and factory by 1852. Both he and Garibaldi walked, hunted, and fished in the lush greenery and flowing flowered hills of old Dutch Staten Island.

Each new teletrofonic design eventually was added to a growing collection box in the timber lined cellar. Improved models were made and brought into the general use of his system. With these modified devices it was effortless to communicate with his ailing wife, employees, and friends. Distances posed no problem for Meucci. His system could bring sound to any location. Numerous credible witnesses actually used his remarkably extensive telephonic system across the neighborhood. One such highly credible witness was Giuseppe Garibaldi himself.

Garibaldi was welcomed to live with the Meucci family in their modest Staten Island home for as long as he wished. Garibaldi,

Meucci, and his wife vanquished sorrow and poverty with faith, hope, and love expressed in a myriad of ways. Each supported the other in the struggle against indignity, accusation, outrage, and all the particular little alienations imposed upon them. The Meucci household not unaccustomed to the deprivations through which character is developed.

Both Srs. Meucci and Garibaldi continued manufacturing candles and other such products of commercial value, supporting themselves and the needs of others in the new land. Frequent financial crisis never deterred his dream quest. Never did such reversals place a halt on Meucci's laboratory experimentation or any of his devoted attentions.

As it happens in the course of time, new changes bring fresh opportunities and joys to lift tired hearts. The sun rose in the little windows after a long winter's dream. An old friend from Havana came to visit Meucci and his wife. Carlos Pader wished to know whether Meucci had continued experimenting with his now famous "teletrofono".

Pader was shown the results, but Antonio confessed the need for new materials. Both Sr. Pader and another friend, Gaetano Negretti, informed their friend Antonio that there was an excellent manufacturer of telegraphic instruments on Centre Street in Manhattan. And so, Sr. Meucci was introduced to a certain Mr. Chester, a maker of telegraphic instruments.

Mr. Chester was an enthusiastic and friendly tradesman. He enjoyed speaking with Antonio. The two shared their technical skills in broken dialects. Meucci was always welcomed there on Centre Street. Meucci visited this establishment on several occasions to purchase parts and observe the latest telegraphic arts. It was here that Meucci "gained new knowledge". He set to work, purchasing materials for new experiments. New and improved tetrofonic models began appearing in the neighborhood.

Meucci was methodic, thorough, and attentive to the unfolding details of his experiments. Meucci kept meticulous notes; a feature which later worked to vindicate his honor. He worked incessantly on a single device before making any new design modifications. Meucci's creative talent and familiarity with materials allowed him to recognize and anticipate the inventive "next move". In observational acuity, inventive skill, and development of practical products he was unmatched.

Thomas Edison, after him, most nearly imitated Meucci's methods. Meucci searched by trial and error at times when reason alone brought no fruit. It was, after all, an accident which revealed the tetrofonic principles to him. Providence itself in action.

TELETROFONO

Meucci methodically explored different means for vibrating electric current with speech. From 1850 to 1862 he developed over 30 different models, with twelve distinct variations. His first models utilized the vibrating copper loop principle which he discovered in Havana. Paper cones were replaced with tin cylinders to increase the resonant ring. He experimented with thin animal membranes, set into vibration by contact with the vibrating copper strip. This model begins to resemble the familiar form of the telephone as we know it.

Meucci wrapped fine electromagnetic bobbins around his copper electrodes, increasing vocal amplitudes considerably. In a

second series, he explored the use of magnetic vibrators. A great variety of loops, coils, soft-iron bars, and iron horseshoes appear in Meucci's successive designs. These latter models gave amazingly loud results. In addition, Meucci's diagrams reveal experimentation with both separate and "in-line" copper diaphragms. These latter operated by the yet to be discovered "Hall Effect", where current-carrying conductors vibrate more strongly in magnetic fields produced by their own currents.

While power for his early tetrofonic system was derived from large wet cell batteries in the basement, Meucci made a pivotal discovery, discovered when he grounded his lines with large dissimilar metal plates. Suddenly, his system operated as if large batteries had been added to the line. Meucci disconnected the basement batteries and the system continued to operate, powered by ground currents alone.

This use of buried dissimilar plates repeatedly appears throughout early telegraphic patents. The actual devices by which this astounding electrification of lines was established were called "earth batteries". Several significant individuals made remarkable discoveries while developing earth batteries throughout the latter 1800's. They found that the earth batteries were not really generating the power at all.

Earth batteries tap into earth electricity and draw it out for use. Some telegraphic lines continue to operate well into the 1930's with no other batteries than their ground endplates. Certain systems continued using their original earth batteries without replacement in excess of 40 years!

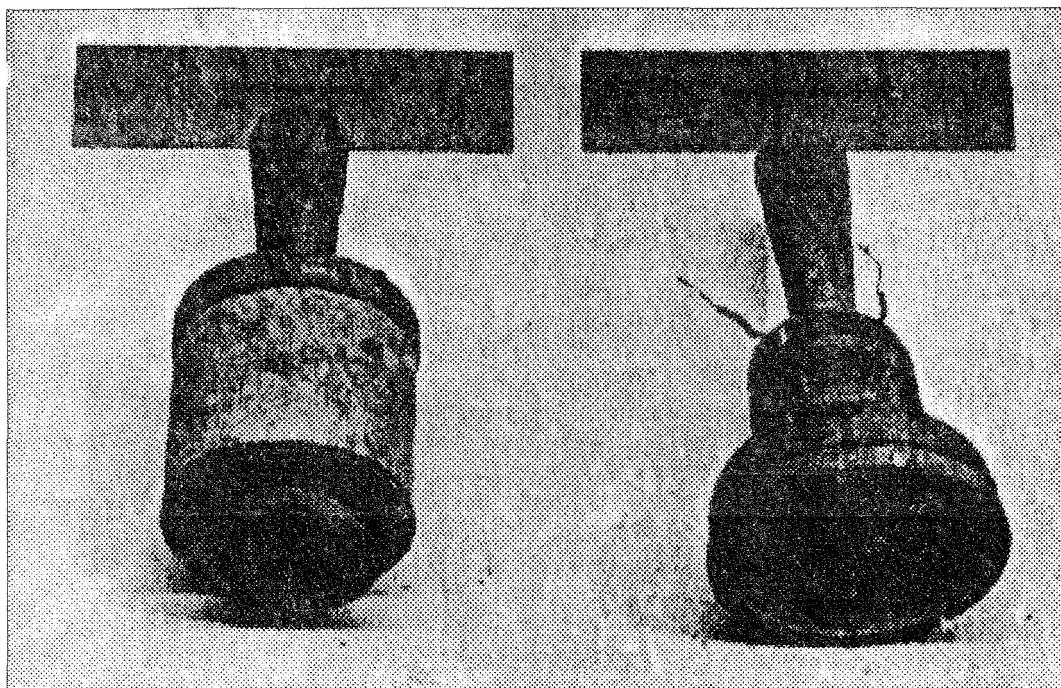
Earth batteries are intriguing because they seem never to corrode in proportion to the amount of electrical power which they generate. In fact, they scarcely corrode at all. Exhumed earth batteries showed minimal corrosion. A mysterious self-regenerative action takes place in these batteries, a phenomenon worthy of modern study.

Like Thomas Edison after him, Meucci was a master of practical chemistry. Numerous of his processes remain unused to this day. He developed strange chemical coatings; using saltwater, graphite, soapstone, wax, muriatic acid, asbestos, sulfur, and various bonding resins to treat wire conductors. Wire lines, specially treated by Meucci, had current rectifying abilities. These absorbed and directed both terrestrial and aerial electricity into the line, a one-way charge valve. Technically what he created is a large surface area diode.

When these specially coated wires were elevated, Meucci enhanced the absorption of "atmospheric electricity" into his system. Prevented from escape by chemical coatings, a steady stream of aerial charges were absorbed into the wire line. He succeeded in powerfully operating his system with "aerial electricity" alone.

Meucci now freely used aerial and earth electricity to power his tetrofonic system. In addition, he discovered that the latent power in strong permanent magnets could amplify speech with very great power. When coupled with energy derived from the ground, Meucci found that true amplifications could be effected. Meucci found that vocal force being sufficiently powerful to produced amplified reproductions at great distances in certain of his models which utilized magnetite "flour".

Sound-responsive soft iron cores were replaced with lodestone



Models of the Meucci telephone

and surrounded by various powdered core composites developed in Meucci's laboratory. Lodestones, surrounded with cores of flour-fine iron powders, produced enormous outputs. Meucci used exceedingly fine copper windings. The vocal range of these magnetic responders was considerable when made in Meucci's own unique design.

Clear, velvety speech was communicated with great power in these fine-powder core designs. His use of flour-fine magnetite powders produced the world's first ferrites; composites of iron, zinc, and manganese later used in radiowave transformers.

His telerofoni were now fully formed, handheld devices of some weight. Surviving models from his system resemble those much later manufactured by Bell telephone. They are cup-shaped, wooden casings...handheld transmitter-receivers. One speaks into the device, and then listens from the same for replies. Meucci's diagrams, notebooks, and models prove his priority over all the historically successive telephone designs.

In addition, Meucci used diaphragms which conducted the current which vocalizations could modulate. He developed remarkable graphite-salt coatings to enhance the electrical conductivity of his responder diaphragms, preceding Edison's carbon button microphone by a full 24 years!

TRANSOCEANIC

In addition to his existing system, Meucci conceived of entirely new directions in communication arts. His mind turned toward the sea...and to transoceanic telerofonic communication. Meucci tested the idea that seawater could actually replace telegraph cables, bizarre as it must yet sound. His notion would be termed "subaqueous conduction wireless". Others had achieved moderate results across limited waterways. Sommering, Lindsay, and Morse each sent weak telegraph signals across streams. Meucci envi-

sioned the whole Atlantic as a possible reservoir for the transmission of telephonic signals.

His experiments took him down to the Staten Island seashore with his telerofono, batteries, and large plates of both copper and zinc. The dissimilar metal plates were submerged quite a distance from each other. Vocal messages spoken into the sea were electrically retrieved by a telerofonic apparatus connected to an equivalent arrangement of widely separated, water-immersed

plates on an opposed part of the distant shore. The signals were clearly heard.

Most engineers will object that these experiments could not sustain vocal communications across great distances.

They will say this because

transmitter power should be so dispersed that no intelligible signal could ever be retrieved. The experiment having been tried across short distances actually works. The most amazing re-discovery concerns the signal-regenerative ability of seawater. Seawater requires only an infinitesimal transmitter current in order to achieve strong signal exchanges.

The submerged plates themselves generate sufficient current to operate the telerofonic system without batteries. Electrical signals do not diminish in seawater as theoretically expected. When Meucci spoke of transoceanic communications he was not exaggerating. Seawater seems to be a self-regenerative amplifier of sorts. The addition of a carrier frequency (an electrical buzzer) would pitch the signals toward a higher range, granting more signal focus.

Sir William Preece duplicated these experiments for telegraphy across the English Channel in the early 1900's. Their developing success was eclipsed by the appearance of aerial wireless. Some researchers have interpreted the work of G. Marconi to be a blend of Meucci conduction telegraphy and aerial wireless. While purists protest, it is intriguing that Marconi would later actually resort to mile-long submerged copper screens for transoceanic communications. The submerged copper screens acted as a "capacitative counterpoise", following his equally long aeriels...out to sea.

Several segments of these Marconi aerial-screen systems have been located by investigators, both in New Brunswick (N.Jersey) and in Bolinas (California). The Marconi "bent-L" aerial system differs from Meucci's design only in that it utilized several hundred thousand watts of VLF currents. In effect, Marconi employed Meucci conduction wireless in his early transoceanic systems.

Meucci became prolific when designing these maritime inventions. It was told him that a certain deep-sea diver, having once distinctly heard a steamship engine while performing a salvage operation, was told (on resurfacing) that the ship was fully forty

miles away! This phenomenon so impressed Meucci that his mind turned toward the use of his teletrofono in deep-sea communications and offshore ranging.

His notion was truly original, involving this submerged plate system for wireless vocal communication. The use of short aerial rods projecting from the diver's helmet formed the very first "aerials". Divers could maintain communications with their surface companions without interruption if such teletrofonic aerials and internally housed responders were installed in their helmets. Sealed aerial rods (one foot or less in length) would protrude out from the helmet, forming the wireless link; an invention truly worthy of Jules Verne! Transmissions and receptions would occur through the remarkable conductive-regenerative ability of seawater to conduct electro-vocal signals.

Of chief concern in Meucci's mind was the establishment of solid maritime wireless communications systems. He designed several systems intended to aid harbor approach and navigation during times of limited visibility. Clusters of tone-transmitters (positioned as fixed stations or anchored as buoys) could wirelessly communicate danger or safety to sea captains equipped with onboard listening devices. Both landmark stations and onboard responders would communicate through seawater with submerged metal plates. These plates would be fixed in position at some depth; much below each landmark and right under the ship hull.

Navigators would be guided into safe harbor by following a specific tonal signal, and avoiding the selected danger tones. These tones would be subaqueous transmissions...true tonal beacons. Navigators were to carefully listen for guide-tones while entering a harbor. Pilots could locate their offshore position with precision by simply listening for the designated subaqueous tonal beacons.

Position could be triangulated by comparing tones and their relative volumes. Tones could be determined by comparison with a small on-board receiver containing tuning forks. Maps could mark these tonal-stations and pilots could rely on their presence. Meucci wished to eradicate the blinding dangers of fog and storm for sailors. Meucci accurately foresaw that an entire corps of maintenance operators would find continual employment in such worthy service.

In all of this, Meucci actually anticipated the LORAN system by a full seventy-five years! In the years before radio pierced the night isolation of shipping, ships maintained tight commonly used sea-lanes when far from coastlands. Mid-oceanic collisions were not uncommon. Meucci conceived of systems by which ships could transmit warning beacons toward one another while out at sea. Helping to avoid such mid-ocean disasters, sensitive compass needles would detect passing ships. Plate-pairs would be poised beneath the ship's hull in the four cardinal directions. Relays could detect ships, responding with loud alarms.

In addition, ships could launch teletrofonic currents in the direction of specific approaching or passing ships, establish continual vocal contact. Meucci accurately foresaw the development of new maritime communications corps, anticipating those wireless operators who would later be called "sparks" by their crew mates.

EXPLOSIONS

Lack of funding alone prevented Meucci from making large scale demonstrations of his revolutionary systems. In addition,

prejudices associated with his nationality prevented New York financiers from even knowing of his activities. Meucci turned to his own patriots for help.

Confident in the both the originality and diversity of his teletrofonic inventions, Meucci was now sure that he could convince Italian financiers to help commercialize the Teletrofonic System; not in America, but in Italy. Meucci (now fifty-two years old) set up a long distance demonstration of his system in 1860 in which a famous Italian operatic singer was featured. His songs being transmitted across several miles of line, Meucci attracted considerable attention. Featured in the Italian newspapers around New York City, he indeed attracted the attentions of financiers.

Sr. Bendelari, one such impresario, suggested that full scale production of the teletrofonic system begin in Italy. He travelled to Italy with drawings and explanations of what he had seen and heard. Contrary to the hopes of all, Sr. Bendelari found it impossible to interest financiers in the teletrofonic system. Civil wars distracted the ordinarily aggressive Italian development of all such new technology.

Italian production of the teletrofono having never begun, Meucci became extremely embittered over both the incident and his own circumstance in America. American financiers were no better. Most contemporary Americans who had any "practical financial sense" at all could not believe that any mechanical device could actually transmit the human voice. They were far less interested in investing their fortunes toward developing systems which they considered fraudulent.

On sound advice from sympathetic compatriots, Meucci was warned never to bring anything to the American industrial concerns without first protecting himself by legal means. Before Meucci could dare bring his models the short ferry trip to Lower Manhattan to the developers, he needed a patent. Patents have never been cheap to obtain, this the regulator's tool. Even in those days, a patent cost a full two-hundred and fifty dollars.

Exorbitant costs being established for the financier's benefit, no independent inventor-novice could ever become an independently successful competitor without "financial assistance".

Meucci settled the matter by obtaining a caveat, a legal document which was considerably cheaper than the patent. Antonio could now only afford a caveat, a legal declaration of a successfully developed invention.

The caveat describes an invention and shows the time-fixed priority of an inventor's work. Meucci had models as well as the legal caveat. His caveat would stand in court, bearing the official seal, a registry number, and the signatures of witnesses. The Meucci caveat was taken in 1871, when he was 63 years old.

While travelling from Manhattan to Staten Island, Meucci was nearly killed when the steam engine of the ferry exploded. He survived this explosion in some inexplicable miracle, severely burned and crippled. While he languished in a hospital bed, his wife sold his original teletrofono models for the small sum of six dollars in order to pay for his expenses.

These models were sold to one John Fleming of Clifton, a second-hand dealer. Attempting to re-purchase these models, he was informed that a "young man" had secured the models. Unable to locate the purchaser, Meucci was devastated. He suddenly felt that his own creation was already taking on a life of its own...fleeing

away from him, out of control.

Growing desperate with thoughts of his own growing age and poor condition, Meucci now pursued the issue of commercializing his invention without restraint. In 1874 Meucci met with a vice-president of the Western Union District Telegraph Company, a certain W.B. Grant. Meucci described his "talking telegraph" and the complete system which was now operational. Meucci requested a test of his telerofoni on one of the Telegraph Lines and was promised assistance and cooperation.

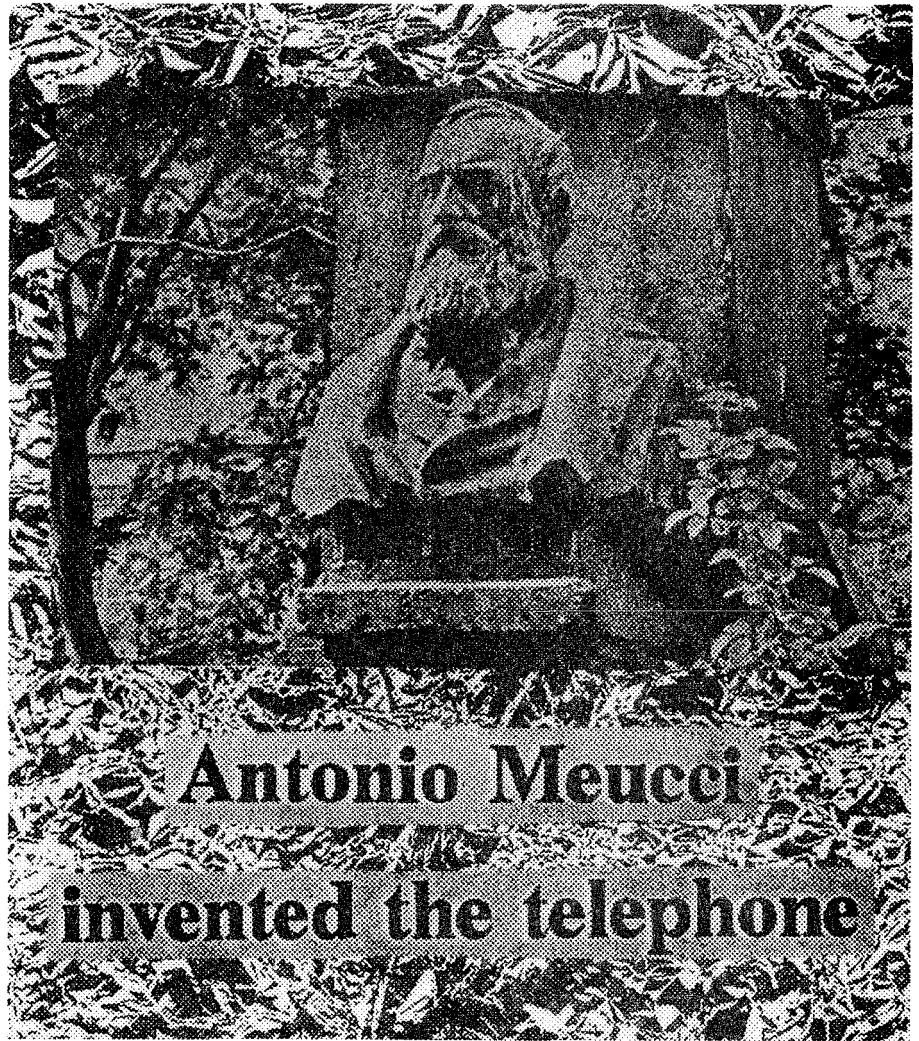
Mr. Grant appeared in earnest, engaged Meucci for a long while, and requested Meucci to leave his models. Meucci did so, being encouraged that he would be contacted very shortly for the test run. Hours of waiting became days. At this point, Meucci attempted to contact Grant again. The vice president could "never be found". Meucci continued visiting Western Union in hopes of reaching Grant and performing the required long-distance tests as promised him originally.

Meucci became bitterly angry over this betrayal of trust. The duplicity involved in the act of such unprofessional denial so exposed the fundamental methodology of American business that he wondered why he had ever left Cuba. So infuriated was he that he maintained a vigil at the Union Office, becoming an annoying eyesore. White haired, bearded, and bowed over with age, Meucci was viewed as a harmless old fool by younger, more aggressive office workers.

Adamant to the last, Meucci finally and loudly demanded the return of his every model. He was then very curtly informed that they "had been lost". Grant had passed these devices onto Henry W. Pope for his professional opinion on the exact working of the devices, forgetting the issue completely in the course of a business day. The monopoly had beaten another victim. He stormed out.

The path which the Meucci models took inside Western Union has been traced. The models periodically kept appearing and disappearing in the electrical research labs of Western Union, revealed through the written studies of several curious individuals. The models were transferred among several engineers as successive new electrical directors were installed. Each examined the models in complete ignorance. Lacking introductory explanations, no one comprehended what the weighty wooden cups could do when electrified.

Franklin L. Pope, friend and partner with young Thomas Edison at the time, was given the models by his brother. Together Pope and George Prescott could not understand the nature of the devices, putting them into a storage area in Western Union. This seems to be the last mysterious repository of Meucci models. Given a trust years before, the models sat in the dustbins of Western



Page from the *Vril Compendium*, Vol 5 — *Vril Connection*

Union. Lost science.

The true history of telephonics begins with Meucci. Others, far younger, were raised in an atmosphere which was enriched by Meucci's developments. Phillip Reis noted the telephonic abilities of loosely positioned carbon rods through which flowed electrical currents. His primitive carbon microphone was later stolen by a vengeful Edison, who was in search of some means for both "breaking" the Bell Company's hold on telephonics, and saving his own financial record with Western Union Telegraph.

Meucci led the way long before others. It must be mentioned that both Gray and Reis were independent and equally great discoverers who each, though antedating Meucci by some 20 years, actually predated Bell by at least 10 years. Some have suggested that, as Bell was encountering great difficulty in developing his own telephonic apparatus, these same models were given to him for the expressed purpose of speeding the race along.

Western Union would engage Edison to "bust" the Bell patent in later years. Edison's invention of the carbon button telephonic transmitter was an inadvertent infringement of Meucci's earliest responder designs. The industrialization of the telephone revealed

the repetitious and convoluted infringement of Meucci's every system-related invention. Bell's own frantic rush to develop telephony had more to do with his need to "live up to" sizable investment monies given him for this research, and less with any true inventive abilities. The truth of this is borne out in considering Bell's later work, involved in his frivolous failed "kite developments". Indeed, without the fortunate "assistance" by friends at the Patent Office, Bell would have succeeded in neither defeating Meucci's caveat nor Gray's electro-harmonic patent.

TELEPHONE SYSTEMS

Those who wished the implementation of telephony for financial gain, chose more controllable and less passionate individuals. Neither Meucci, Gray, nor Reis fit this category of choice. The Bell designs are obvious and direct copies of those long previously made by Meucci. The dubious manner in which the Bell patents were "handled and secured" speak more of "financial sleight of hand" than true inventive genius. The all too obvious manipulations behind the patent office desk are revealed in the historically pale claim that Bell secured his patent "15 minutes" before Gray applied for his caveat. Today it is not doubted whether perpetrators of such an arrogance would not go as far as to claim "15 years priority".

Lastly, this fraudulent action denied the years-previous Caveat of Meucci, which "could never be found at all in the patent records" during later trial proceedings. No mind. Meucci is a legend. A name suffused by mysteries. The Meucci caveat remains to this day on public record. All subsequent telephone patents are invalid. Meucci bears legal first-right. No lawyer today will decline this recorded truth.

All other court actions taken against Meucci toward the end of his life was staged by both the corporate Telephone Companies and the Court itself for the expressed purpose of securing the communications monopoly. The complete and operational Meucci Telephonic System, witnessed and used by countless visitors and neighbors for equally numerous years before Bell, was well documented in both Italian and local papers of the day.

To read the transcript of the Meucci court battle waged around the now aged and infirm Meucci is to witness the fear which large megaliths sustain. Though Meucci was not able to afford the yearly renewal price of his caveat, his priority was damaging, otherwise they would not have taken such measures to examine him publically.

The Bell Company sought to minimize Meucci's system by calling it nothing more than an elaborate "string telephone" in court proceedings, exposing themselves on several counts of fraud. Scientifically, this line of defense was unfounded. The obviously slack lines made the Meucci System incapable of conducting merely elastic vibrations with such clarity and amplitude. Moreover, the velvety rich tones received through these devices were far too modified, clarified, and loud to be "mere mechanical transmissions".

It was then hoped that the elderly gentleman would desist the entire crude process and give up. Meucci was publically and ethnically labelled by leading journalists as "that old Italian, that old...candlemaker". Meucci maintained his ground to the consternation of the prosecuting attorney. Priority of diagrams, witnesses,

working models...nothing could satisfy the predetermined judgement of the court.

To add insult to injury, Meucci's character was vilified in the press. In numerous pro-corporate newspaper articles Meucci is referred to as "a villain...a liar...an old fool". Predetermined to satisfy the corporate megalith, a deliberate and shameful court examination had as its aim the eradication of Meucci and his claim of priority. This process would later become the normal mode of business operation when destroying competitive technologies. With no hope of financial reprise in sight, Meucci ceased the excessive court fees. This was precisely what the monopoly wished. The fact yet remains that Meucci was first to invent the system.

Throughout the years, Meucci's name was not even mentioned in the history of telephonics. Closer evaluation of this true social phenomenon in "information control" reveals that communications history sources were controlled and principally provided in later years by Bell Labs to school text companies. They would ensure that the otherwise complex story was "straightened out".

It is also obvious that Meucci and his countrymen were never truly "embraced" by the American establishment until they took deliberate action. To the very end of his life, Meucci simply and elegantly maintained his serene statements in absolute confidence of the truth which was his own. "The telephone, which I invented and which I first made known...was stolen from me".

The more important fact in these matters of intrigue is recognizing that discovery itself is no respecter of persons or indeed of nations. Discovery touches those who honor its revelations. Discovery is an inspiring ray whose tracings are never limited by laws, prejudices, unbelief, nation, ethnic group, or economic bracket.

LEGEND

Eager to maintain their ascendancy in the annals of corporate America, incredible odds were marshalled against the aged Meucci by The Bell Company. In this determined counsel, we see the singular insecurity which frightens all secure investments. In truth, no investment is ever secure, when once discovery is loosed on the earth. What corporations have always feared is discovery itself. It is an unknown. In attempts to capture discoveries before they have time to take root and grow, every corporate megalith employs patent researchers. Their job is to waylay new company-threatening inventions.

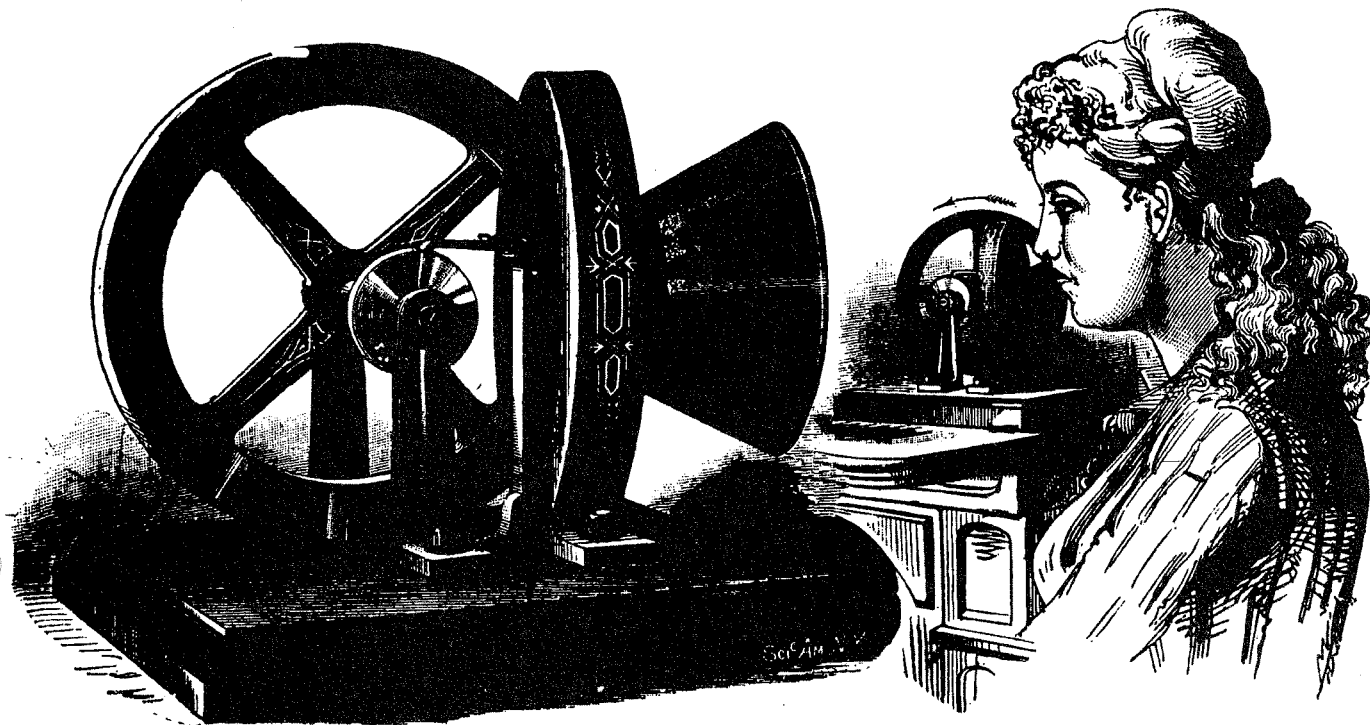
Inventors represent the true unknown. They are uncontrolled forces who truly hold the power of the economic system in their grasp. Were it not so, then corporate predators would not pursue them with such deliberate vehemence. No one can destroy an idea once it has made its appearance on earth. Discovery is neither controlled or eradicated by the powerful. Attempts at wiping out new technology mysteriously result in a thousand diversified echoes, moving in a thousand places simultaneously.

The biography of Antonio Meucci is suffused with the deepest of emotions. I have read the biographies of many great and forgotten science legends, yet have not found one whose pathos completely equals that of Meucci. Despite the manner in which the new world treated him, the dignity of this great inventor is silently mirrored in his every portrait. The face of Antonio Meucci is serene...the face of a saint.

Vocal Motors

Sound Mills and Phonomotors

Compiled from the *Vril Compendium*, Volume 3 – *Vril Linkage*



AFTER the notable researches of Crookes on radiation, which culminated in the discovery of the radiometer, or lightmill, it was a natural transition of thought which suggested to several minds almost simultaneously the possibility of devising an apparatus which should rotate under the influence of sound waves as does the radiometer under the influence of the rays of light and heat. Such instruments were indeed devised independently about six years ago by Lord Rayleigh, by Prof. Alfred M. Mayer of Hoboken, by Mr. Edison, the well-known inventor, by Prof. Mach of Prague, by Dr. A. Haberditzel of Vienna, and by Prof. Dvorak of the University of Agram (in Croatia). These researches, though of great scientific interest, have been somewhat overlooked in the rush of scientific inventions during the intervening years. During the course of the past year, however, Dvorak has given to the world, in the pages of the *Zeitschrift der Instrumentenkunde* (vol. iii, Heft 4), a detailed account of his experiments, together with figures of various piece of apparatus hitherto undescribed. We propose to give a *resume* of the principal points of Dvorak's researches.

Four kinds of sound-mills are described by Dvorak, two of them depending on the repulsion of resonant boxes or cases, and two

others on different principles.

The first of these instruments is depicted in Fig. 1, and consists of a light wooden cross, balanced on a needle point, carrying four light resonators made of glass. These resonators are hollow balls of 4.4 cm. diameter, with an opening of 0.4 cm. diameter at one side. They respond to the note g' (=392 vibrations). When the note g' is forcibly sounded by an appropriate tuning fork, the air in each of the resonators vibrates in response, and the apparatus begins to rotate. As a resonator will respond when placed in any position with respect to the source of sound, it is clear that one single resonator properly balanced should rotate; and this is found to be the case, though, naturally, the action is more certain with four resonators than with one.

Before proceeding to the other forms of sound-mill devised by Dvorak, it may be well to explain briefly the cause of the phenomenon, and to describe Dvorak's particular method of exciting the appropriate sound. Dvorak has pointed out, as indeed has been done elsewhere both by Lord Rayleigh and by Prof. A. M. Mayer, that, when sounds of great intensity are produced, the calculations which are usually only carried to the first order of approximation cease to be adequate, because now the amplitude

of motion of the particles in the sound wave is not infinitely small as compared with the lengths of the sound-waves themselves. Mathematical analysis shows that under these circumstances the mean of the pressures in the condensed part and in the rarefied part of the sound-wave is no longer equal to the undisturbed atmospheric pressure, but is always greater. Consequently at all nodal points in the vibrations of the air in tubes or resonant boxes, the pressure of the air is greater than elsewhere, and therefore any resonator closed at one side and open at the other is urged along bodily by the slight internal excess of pressure on the closed end. The apparatus, Fig. 1, therefore rotates by reaction, in the same way as the top and bottom, while the air cavity was tuned by enlarging the circular opening in front. In the later researches the box stood on four feet made of India rubber tubing. The note of the fork so mounted was very strong. At 40 cm. distance it would set the sound-mill in motion.

Dvorak's second apparatus, a "rotating resonator" consists of a short cylindrical box, constructed of stiff glazed paper, having four projections, shown on plan and elevation in Fig. 3, each of which bears at its side a short open tube of paper. It is, in fact, a resonator with four openings, arranged so that it can be hung upon a silk fiber. A fine needle projects also below to steady the motion during its rotation, which occurs whenever the apparatus is brought near to the sounding-fork. For the note *g'* the dimensions were: diameter, 7 cm.; height 8.6 cm.; diameter of openings, 0.6 cm.

The third apparatus is the "sound radiometer" described by Dvorak before the Imperial Viennese Academy in 1881. Its cause of action is less readily explained, though its construction is even more simple. Its form is shown in Fig. 4, D; there being, as before, a light cross of wood, pivoted by a glass cap upon a vertical needle. To the four arms of the cross are cemented four pieces of fine white card, about 0.08 cm. thick, perforated with holes which are depressed conically at one side, and raised at the other. These holes may be made by punching the card upon a lead block with a steel perforating-punch of the form shown in Fig. 5A, the dimensions of which are: $a b = 0.38$ cm.; $c d = 0.2$ cm. The holes

should be from 0.6 to 0.65 cm. apart from one another. When a card so perforated is held in front of the opening of the resonant box of the tuning fork, it is repelled if the smaller ends of the conical holes are toward the box. A better but less simple way of perforating the cards is by the use of the conical steel punch shown in Fig. 5B; and the matrix, Fig. 5C. The angle of the cone is $55'$, and the narrow projecting nose of steel is 0.2 cm. For this purpose he places between the prongs of the fork an electromagnet constructed of the following plan. Two plates of iron separated by a sheet of paper are used as a core. They are cut of such a breadth as to lie between the prongs without touching them. This core is overwound with insulated copper wire, as shown at E, Fig. 2, and the electromagnet is then mounted by a bent piece of wood, $a b c$, upon the sounding box, K, of the fork. The wires are connected in a circuit with a battery, and with the electromagnet of a self-exciting tuning fork of the same note. Dr. Dvorak is extremely particular about the arrangement of the resonant boxes of his tuning forks. They must not touch the table, the arm, $a b c$, being clipped at about the point b in a firm support. Moreover, the resonant boxes themselves require to be specially tuned, for all are not equally good. Dr. Dvorak points out that, besides the tone of the fork, and the tone of the air column in the cavity of the box, there is also a tone proper to the wood of the box itself which in most of the forks used in acoustic researches is too base, the wooden walls being too thin. To hear this tone the prongs of the fork should be damped by sticking a cork between them, and the cavity should be filled with cotton wool while the wooden box is gently struck with the knuckle or with a cork hammer. It is important that the wood-tone should be tuned up to coincidence with the tone of the fork and with that of the air in the cavity. Dr. Dvorak himself used the box depicted further on in Fig. 6, in which drawing F is the socket into which the stem of the fork was screwed. The rotations are more rapid if the cards are set on obliquely in the fashion shown in Fig. 4E, the burred sides being outward. Cards with twenty five perforations so mounted rotate briskly when the "mill" is set in front of the resonant box.

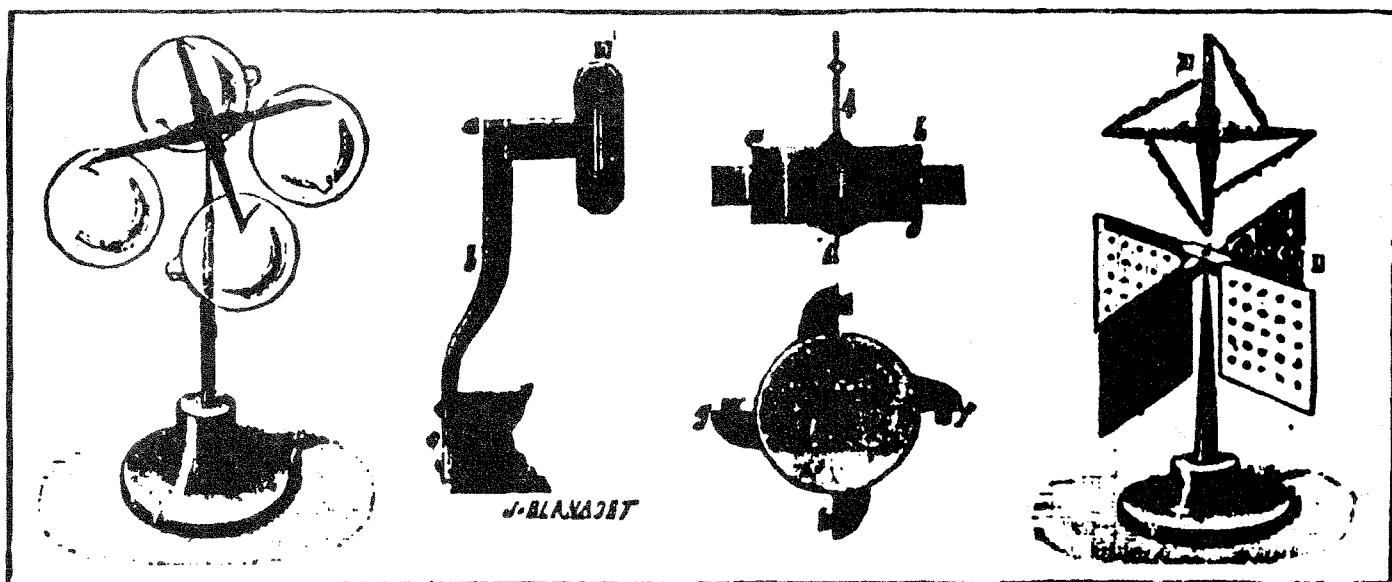


FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

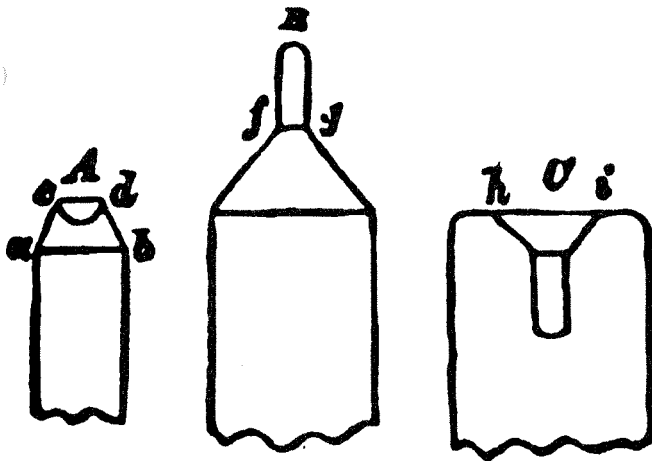


FIG. 5.

The fourth apparatus of Dvorak is called by him an "acoustic anemometer". It is shown in Fig. 6. This is merely a little "mill" of simple construction, the values being small pieces of stiff paper or card slightly curved. The sounding box previously described is placed a little way from it, and between them is held an ordinary Helmholtz's resonator, with its wide mouth *b* turned toward the box, and its narrow opening *a* toward the mill. From what has been previously said it will be understood that the internal increase of pressure in the resonator at *a* has the effect of driving a jet of air gently against the sails of the mill, which consequently rotates. Dr. Dvorak also suggests that this two-aperture resonator may be replaced by one having but one aperture, as shown, as shown as *R*, with its open side *i*, turned toward the mill. This resonator is formed of a glass ball cut away at one side and cemented to a glass plate having a small hole in the center. It may be remarked that when the air ejected from the mouth of this resonator is examined by the method of mixing smoke with it, and then viewing it through slits cut in a rotating disk, the currents are seen to consist of a series of vortex rings.

A second kind of "acoustic anemometer" may be made by taking a card pierced 100 conical holes, as previously described, and placing this between the resonant box and the "mill". The latter rotates in the wind which passes through the conical holes.

Space does not admit of a comparison being drawn between these instruments and those of Mayer, Mach, and others, which are very closely akin in their design and mode of action, interesting

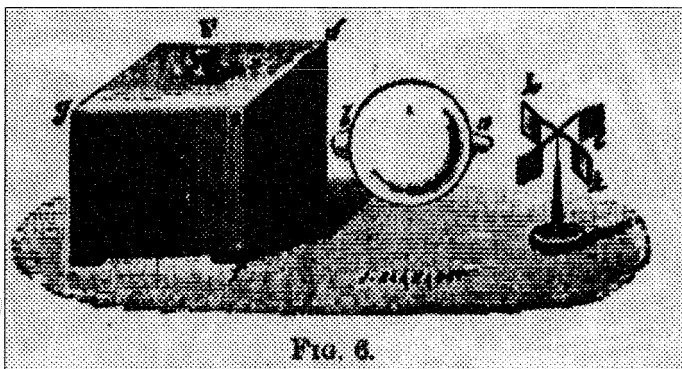
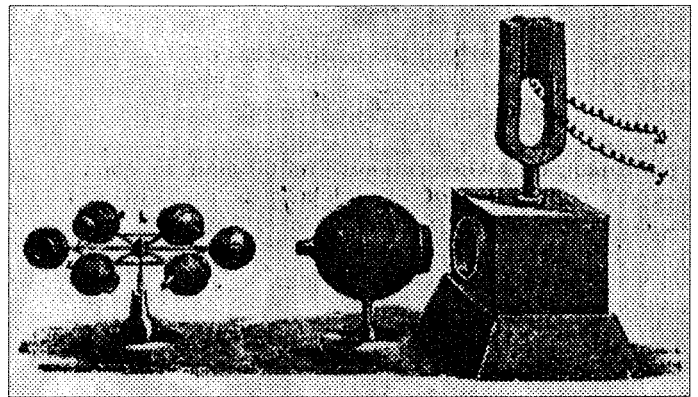


FIG. 6.

though, such a comparison might be. Nor can we here compare the action of these instruments with the "phonometer" with which Mr. Edison literally accomplished the feat of talking a hole through a dead board. But this remarkable machine was a purely mechanical toy, which converted the vibrations of the voice, by means of a very finely cut ratchet wheel, into a motion of rotation round an axis. — *Silvanus P. Thompson*

Dvorak's Sound Radiometer.

A very interesting conversazione was given in London by Prof. Huxley as President of the Royal Society, on the evening of the 7th ult. One of the most interesting contributions to the objects exhibited was Herr Dvorak's sound radiometer, which we illustrate on the next page, and which was exhibited by Mr. W. H. Preece, F.R.S. In this apparatus, which attracted considerable attention, a wheel is set into rapid rotation by the sound waves produced by a vibrating tuning fork. Referring to the figure, *T* is a large tuning fork mounted on a resonating chamber *R*, and maintained in continual vibration by an electromagnet *C* fixed between its prongs, to which an intermittent current of electricity is transmitted by a contact breaker consisting of a similar fork tuned in unison with *T*, with which it is connected by the wires *x* and *y*. Opposite the orifice of the resonating chamber *R*, and on the same horizontal axis, is placed a Helmholtz resonator *K*, and in front of its small end is



Herr Dvorak's sound radiometer

placed the instrument shown at *L*, which consists of six little Helmholtz resonators fixed round the circumference of a wheel which is poised at its centre on a needle point so as to be capable of rotation in a horizontal plane after the manner of a compass card. The little resonators are attached to the wheel in such a manner that their axes are tangential to their circle of rotation, their smaller ends pointing in the direction in which they revolve. When the tuning-fork *T* is set into action the air within the chamber *R* takes up the vibration and the sound is greatly reinforced, and this is more marked if a mass of cotton wool or soft rubber be interposed between the chamber *R* and the table. The action of the Helmholtz resonator *K*, is to take up the sound waves and to concentrate them in the direction of the revolving instrument *L*, and this effect is so strongly produced that, if the finger be placed a short distance in front of the smaller orifice of *K*, a sensation is felt which is indistinguishable from that which would be produced by a rapidly

intermittent jet of air issuing from the nozzle. The rotation of the wheel *L* may be due to the fact that as the air within each of the little resonators *L*, is thrown into vibration under the influence of the sonorous vibrations, and in the direction of its axis, and as it is freely open to the external air towards one end of that axis, it is probable that the energy of motion expends itself partly on the envelope and partly on the air, and the former receiving a greater proportion over that part of its surface which is opposite to the large orifice than in the contrary direction, rotation takes place.

We are, however, rather inclined says *Engineering*, to which we are indebted for these details, to place the phenomenon in the same class with those discovered by Professor Bjerknes, and illustrated in the beautiful experiments of himself and his son, and to attribute the action to the effect of one vibrating body upon another through the intervention of a common vibrating fluid medium. ■

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF MENLO PARK, NEW JERSEY.
IMPROVEMENT IN VOCAL ENGINES.

Specification forming part of Letters Patent No. 210,767, dated December 10, 1878; application filed November 27, 1878.

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Menlo Park, Middlesex county, State of New Jersey, have invented certain new and useful Improvements in Vocal Engines; and do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

The object of my invention is to transform the vibrations of a diaphragm or other body capable of being set in vibration by sound-waves into continuous rotation of a shaft, to act as a prime motor for various light mechanisms.

My invention consists in the combination, with a diaphragm sensitive to sound waves, of a shaft between centers having a fly-wheel attached, and combining the diaphragm therewith by a friction-clutch, which, when reciprocated by the vibration of the diaphragm, acts upon the shaft so as to continuously rotate the same when the diaphragm is actuated by sound-waves.

Figure 1 is a front view of my apparatus. Figs. 2 and 3 are side views of the same.

In Fig. 1, C is the diaphragm, of any convenient material, which is secured to the frame A by the ring D and screws X X. B is a mouth-piece for concentrating the air-waves upon the diaphragm. F is a cork secured to the center of the diaphragm. 2 is a rubber tube, into which a pin is secured. This pin connects the rubber with the reciprocating lever G, whose fulcrum is upon the shaft 3.

P is a click or pawl resting upon the wheel H, and pressed against its surface by the spring O. K is another click, secured to the upright M, which serves to prevent a backward motion of the shaft. E is a fly-wheel, for storing, by momentum, the intermittent power, and thus keeping the shaft in continuous rotation. The shaft 3 runs in centers between the uprights M and N. The whole is secured to the base W.

The action is as follows: When the mouth is placed in proximity to the mouth-piece B, and several words are spoken, or a musical note given, the sound-waves, striking the diaphragm, set it in vibration. This, in turn, reciprocates the lever G, causing the shaft to

be carried forward a small distance at every vibration, and the momentum of the fly-wheel transforms these minute impulses into continuous rotation of the shaft. A small grooved pulley, 4, Fig. 1, is attached to the shaft, in the groove of which a continuous thread or band may pass to any light mechanism, and thus give motion.

I do not wish to confine myself to any particular mechanism for transforming the vibratory motion of the diaphragm into continuous motion, as a ratchet-wheel and click and many other well-known mechanical equivalents may be used. Neither do I wish to confine myself to a pulley and cord for connecting the prime mover to the apparatus to be set in motion, as a worm and wheel or toothed wheel or friction-wheel may be substituted instead.

A large cone may be inserted in the mouth-piece B, for collecting extraneous sounds and causing them to move the diaphragm.

This apparatus is useful for giving motion to clocks and other small apparatus requiring minute power.

I claim as my invention-

A vocal engine consisting of a diaphragm or other body capable of being set in motion by sound-waves, a shaft, and reciprocating mechanism, substantially as and in the manner set forth.

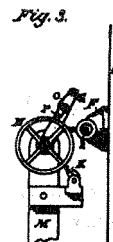
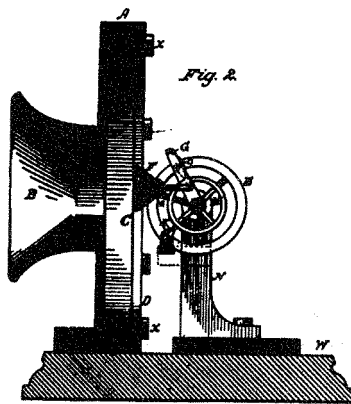
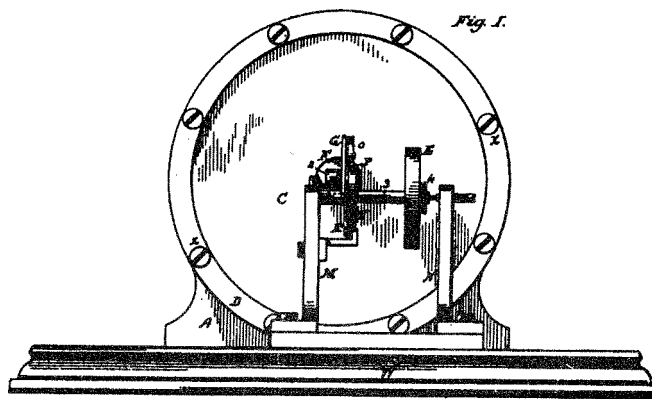
THOMAS A. EDISON.

Witnesses: Wm. CARMAN, Chas. BATCHELOR

T. A. EDISON
Vocal Engine.

No. 210,767.

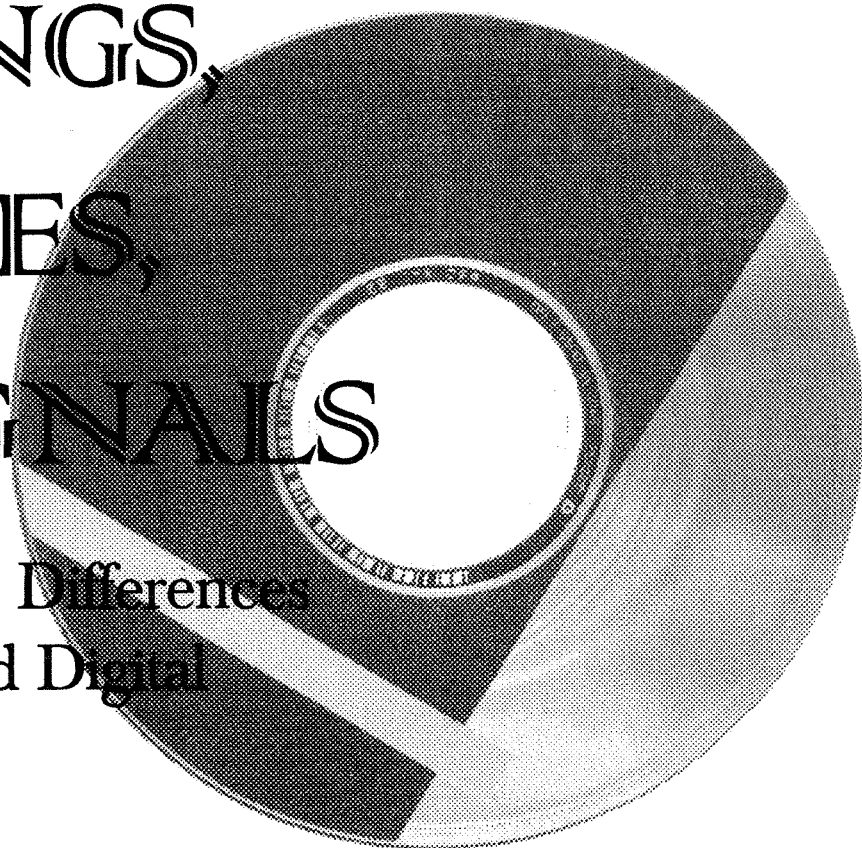
Patented Dec. 10, 1878.



Witnesses
Chas. Batchelor
Wm. Carman.

Inventor:
Thomas A. Edison

MEANINGS, MESSAGES, AND SIGNALS



Comprehending the Differences Between Analog and Digital Recording Media

by Franklin Ellsworth Clarke

ONE of the most conspicuous conquests of the world market this century took place during the 1980's. Corporate promotions managed the complete turnover of a market already saturated with numerous successful recording media. Several major electronics megaliths thus stimulated an unnecessary techno-revolution while demonstrating a deadly proficiency in social manipulation. The CD mindwar swept the working class world in an aggressive plague of conspicuous consumption. In the opinion of some notables digital recording is a completely unnecessary and over-rated technology.

It is not enough to mention the consciousness-damaging effects of the CD "revolution" on human sensibilities. Digital technology, and its glaring failure to deliver promised objectives, provokes clarified scientific comment.

DISSENT

With the appearance of the CD systems came a concurrent tide of resistance among aficionadi of the existing recording media. Conspicuous differences between analog and digital recording media were wholly qualitative in content, a sizable population expressing the commentary of dissent. This was an affront which corporate controllers would not tolerate.

Remarkable cohesive unities appeared among widely separated and independent audio industry commentators. Based on sensations and "feelings", media experts the world over complained of the "harsh edge", "sharp attack", and "cold atmosphere" which characterized CD sound. The "soft warmth" of both phonographic

and magnetic recordings, became part of an established lexicon among CD critics.

Audio engineers recalled this very same commentary when transistor technology was socially deployed. While germanium transistors produced truly wonderful results in radio or television reception, they failed in audio applications. There were those who deplored the "cold hard sound" of transistor stereo amplifiers, preferring the "warm soft sound" produced by vacuum tubes. Certain companies continued manufacturing vacuum tube stereo amplifiers, classics in the collector's art today.

Musicians of the late 1960's recall when transistorized guitar amplifiers were first introduced, discovering for themselves the very same "hard, edgy, cold, and unresponsive" sound. Those who enjoyed the use of distortion and natural feed-back effects were shocked to discover that transistorized amplifiers would not function in either capacity. Further changes were recognized when the germanium of early transistors were replaced by silicon. The large germanium transistors produced radio tones which were "clear and deep" when compared with the "thin and shallow" tone of silicon transistors.

Quantitative studies of the phenomenon produced intriguing results. Audio engineers found that vacuum tubes best amplified all the even harmonics, while transistors best amplified all the odd harmonics of input signals. It was assumed that the "warm" or "cold" sensibility was the result of these overtone differences. Believing that the transistor trend would dominate, many engineers continued designing transistor stereo amplifiers. These were abys-

mal failures in the market. Vacuum tube stereo amplifiers maintained their status as preferred components among stereo enthusiasts, while older and yet-thriving companies dominated the stereo scene.

The "warm-soft" awareness persists today, evidenced in the extensive market sales of trendy tube-driven amplifiers for both stereo systems and musical instruments. The market on trendy vinyl disc systems continues to evidence a new analog renaissance. Casual visits to local art districts reveal the growing preference. Nouveau analog showrooms grant no standing room on certain days. Recording Industries, dispassionately watching this social phenomenon, are supplying new vinyl pressings in anticipation of the new movement back to analog.

ETHNIC AESTHETICS

Provoking a stale and caustic response by SONY and other foreign flags, reasons why the Industry attempted dissuasion of all such "feelings oriented" arguments or assessments were all too obvious. Heavily invested in digital, the Industry theme had nothing to do with aesthetics.

SONY soon sponsored and propelled its own propaganda, a vicious and derisive inference which focussed on the "fallibility of human discernment" and the "infallibility" of digital performance. Inventing and pronouncing its own conclusions on Western aesthetics, this tide of counter-commentary reviled the human sensorium as exercised in the West. What the Industry effectively demanded was a conversion of Western aesthetics to Eastern ones, a conversion which is innate in the very nature of CD sound.

SONY called on consumers to "improve and modernize their audio discernment". Demanding that consumers accept the digital sound as "audio perfection", the Industrial response was typically unyielding and dictatorial. Critics of digital were accused of failed discipline, inadequate qualification, and antiquated sensibilities.

Industry engineers stopped listening to the complaints of consumers now. They persisted in their own kind of silence, satisfied that the technology had its own "proven success". The consumer field studies further evidenced the correctness of their pride. Control of the market alone would now stifle all complaints. But despite the authoritative stance, SONY had no power by which to dissuade the Western population which clearly "felt the difference" between analog and digital media.

SONY failed to realize and calculate that purely ethno-racial sensibilities will continue to dominate market preferences; an obstacle which they had failed to calculate in their extensive market surveys. Technology is thus innately biased, an ethno-racial suffusion which tints every new production.

Music is music, so they thought. There were those emotionless foreign "classical" artists whose performances were eminently suited to the digital technology; impossible to discern whether live or recorded. But discerning Western listeners persisted in sensing the vacuousness by which compact discs have yet been characterized.

WITHDRAWAL

For a short time, sizable consumer populations suddenly began preferring analog. Vinyl "throw-away" houses began experiencing voluminous sales, often selling out their stock in a few hours after

opening the doors. As CD houses began reporting this market drain, Industry manipulators began withdrawing vinyl from the streets. But even while vinyl discs were being taken away, magnetic tape was selling as never before. Here was an amazing persistence in which social preferences defied the manipulative machinations of foreign business. The Industry observed these aesthetically propelled trends with concern. Could they fight an aesthetic which was purely ethno-racial in nature?

Consumers have grown to expect and demand much, much more from Media Industries. It is wonderfully ironic to observe how western working class demands compel the Industry to supply.

INERTIAL SOUND

Most consumers very obviously knew that "something was missing" from digital recordings. It was the very same "something" which analog apparently retained. But what is the analog "soft warmth"? What is the digital "hard cold"? How can sound, "mere pressure waves in air", be distinguished in these terms?

When Helmholtz studied the nature of sound, it was not from the stance of the "sensing percipient". When Helmholtz studied sound, he did so from the poise of the quantitative observer. Separated from the feelings which sounds evoked in him, Helmholtz directed all of his attention on the inertial dynamics of sound. Along with those who endorsed the quantitative redefinition of natural study, Helmholtz ignored and eradicated his inner feelings from the scientific record. Helmholtz filtered and discarded those qualitative components which form the greater part of acoustic phenomena, pursuing the science of acoustics with his typical quantitative elegance.

He measured sound pressures, wavelengths, amplitudes, harmonics, and heat equivalences. He graphed sounds, comparing wave traces and overtones from diverse sound sources. With this data base, Helmholtz undertook the mathematical description of every acoustic phenomenon. This mathematical conversion proceeded without incident until the analysis of different instrument "voices" was attempted.

TIMBRE

Timbre. A difference in voice which cannot be explained by tone alone. Baffled at first, Helmholtz came to believe that different instrumental "voices" could adequately be explained in terms of overtones and harmonics alone. In his inertial model, orchestral instruments were each viewed as transducers of complex overtones. Instrumental voices, or "timbre", supposedly differed only because they produced specific overtone clusters.

Helmholtz declared that the theoretical proof of his theory would be secured only when instrumental voicings could be "synthesized". The synthesis of any instrumental timbre required the appropriate blending of fundamental overtones. An appropriate overtone blend could theoretically then "sound just like" a human voice, a trumpet, a violin, a piano...any instrument. Elegant and false.

SYNTHESIS

Pipe organs. The original synthesizers. Tool of the poor composer, the pipe organ was the means by which so many lost

symphonies were arranged and finalized. Those who designed the great pipe organs of Europe knew that the Helmholtz theory of "timbre" was completely inadequate. The design of "organ stops", different orchestral voicings, required far more than the mere blending of overtones produced by combined variations of pipe ranks. Woodwinds and brass voicings, played through organ stops, still sounded like pipes. These designers could not "synthesize" other instruments at all. Pipe organ sounds persisted in a curious signature by which they were always recognized.

Laurens Hammond, inventor of the Hammond organ, produced his experimental "Novachord" in 1930. The Novachord was a keyboard capable of synthesizing and mixing complex waveforms. Attack, decay, tremolo, and echo were each carefully generated by vacuum circuits and carefully controlled through forward controls. The very first commercial synthesizer, the Novachord produced unearthly electronic voicings. Musicians found greater satisfaction playing these new timbre combinations than arranging the synthesis of traditional orchestra instruments. In point of fact, the Novachord could NOT adequately synthesize orchestral instruments. As with the pipe organ, the sound of the Novachord was always recognized.

During the early 1970's, solid-state electronic synthesizers were produced to revitalize the guitar-worn music population. Equipped with a great variety of complex waveform generators, designers claimed that their instruments could accurately synthesize every orchestral voice. Despite new attack and decay controls, all of these synthesizers produced sounds common to the old pipe organs.

Claiming that their failure was the result of inaccurate harmonic synthesis, manufacturers now theorized that a "more graphically detailed blend" of overtones could "replace an orchestra". Hoping to quickly achieve this theoretical goal to meet the rising expectations, engineers produced new kinds of waveform generator. The resultant tide of FM stereo synthesizers produced impressive sounds, but could never reproduce true orchestral voices. As with pipe organs, so with synthesizers. In fact, each keyboard could be named on hearing. Each synthesizer retains its peculiar signature.

SAMPLERS

Utterly frustrated with the consumer critique which followed FM stereo synthesizers, designers began work on "sampling" keyboards. In this method, pre-recorded orchestra instruments are reproduced on command. "Samplers" used pre-recorded voicings to produce note-by-note instrument reproductions. The early sampling systems employed tape (Mellotron, 1966) and optical soundtracks (Orchestron, 1972) to achieve this feat.

While providing a wondrous orchestral filling of ordinary guitar songs, the eerie and disembodied sounds of the Mellotron were easily recognized. These tape-replay keyboards could not provide more than a background "wash" of symphonic sounds. In several instances, the sounds of Mellotrons were compounded with a chamber ensemble to produce magnificent rock studio recordings. But neither synthesizer nor sampler can "fool the ear".

Pipe organs, synthesizers, and samplers. The Helmholtz concept of overtone synthesis had again failed. How thoroughly intriguing that we are consistently brought back to the very instruments which we seek to synthesize! The strange tautology is

telling us something about quantitative analysis and its fundamental error. In fact, the Helmholtz overtone synthesis theory is wrong. We cannot synthesize timbres at all. There clearly is more to sound than the acoustic waveforms, a difference which quantitative analysis can neither measure or explain.

ANALOG

Tinfoil, wax, bakelite, metal, film, vinyl. Sound vibrations were directly applied to storage media with needles and light beams from 1877 until 1985. The applications were changed from longitudinal (vibrations into media) to transverse (vibrations across media) in attempts to improve overall sound qualities. No recording reproduced the original sources with "live performance" impact. Recordings, whether cylinders or discs, always maintained their "music box" sound.

Technicians sought the improvement of recording techniques in hopes of modifying that "music box" sound. Reproducing the "live feel" was their goal. Being direct copies of source sounds, reproductions were seen as real sound ANALOGUES, the method known as ANALOG. Analog recording employed the continuous path storage of vibrations actually produced by sound sources.

STEREOGRAPHICS

Technicians studied media formats with a view toward raising the excellence of the recording arts. It was quickly recognized that sounds were actually "reprocessed" whenever recorded and played back. Single microphone groups, all connected in series, did not record sounds exactly as the human ear hears. Also, single loudspeaker playbacks did not produce room sounds the way performers do.

Distinctions between "monaural" and "stereo" playbacks were perceived as the new frontier. Human aural capacity provided the model for technical design. Separate left and right channels would reach a new degree of media refinement, possibly bringing the art up to that "live performance feel". But stereo recordings, however improved through the decades to come, continued sounding "like recordings".

The very last improvement in this vein was a dismal failure. Multiplying stereo channels, and surrounding listeners with multiple loudspeakers, one always knew the difference between "Quadrophonic" reproductions and live performance. There was never a contest in this discernment. What was wrong with the technology?

NOISE

Because all analog recording media and playback transducers engage in direct physical contact, a medium-characteristic "noise" persists in playbacks. Technical analysts of the time therefore focussed all of their engineering attentions on eradicating all the inherent "noises" of analog. Technicians actually believed that, when these noises were removed, the reproduction of recorded sound would become "life-like". Eliminate the noise, it was thought, and the "live performance feel" would spontaneously appear.

Engineers therefore developed new noise-eradicating filtration systems. But even DOLBY noise reduction and DBX compression circuits failed to breach the "record" barrier toward life-like musical reproduction. An ancillary development came with the complete

revision and modification of loudspeaker technology. Planar speaker technology, whether electrostatic or magnetic, was hailed as the only means for achieving "true graphic reproduction of sound". But, even when playbacks were "spread out" across large theatrical spaces through enormous planar loudspeakers, listeners sensed a mysterious and defined "absence". Like all the other costly improvements, the noise-reduced electrostatic loudspeakers could instantly be discerned from a "live performance feel".

Hoping to close the obvious gap between recordings and human experience, undaunted audio engineers continued searching for that missing "audio component". Their hope was that, when once the "missing" audio component could be isolated, the live feel would be restored to recorded material. Failure upon failure.

DIGITAL

Technicians imagined that the inability to reproduce the "live feel" was found in the very MODE of recording itself. "Analog", they now claimed, was the "real" problem. The introduction of digital recording process was an outgrowth of post-War computer technology. It was again believed that digitally recorded sounds would reproduce the "live performance feel".

Sound vibrations, in the digital mode, are not directly recorded. Digital recording technique "chops" incoming sounds several thousand times per second. This rapid "chop" rate is technically referred to as the "sampling rate". Faster "chopping" means more accurate harmonic duplication. During each of these separate millisecond "chops", incoming sound is not directly recorded as vibrations. It is converted into a continuous number code.

Continuous digital sampling produces huge number codes in chains. This requires enormous code-memory. DAT tape stores the codes as a continuous series of magnetic impulses. In CD storage, codes are burned into thin aluminum foil by a fine laser beam as perforations. When the CD is spun, a laser "reads" the tiny holes. Their interrupted codes become sounds when an on-board "tone generator" produces a wavering tone signal. The more accurately the source was "chopped" and encoded, the more accurately the on-board generator will produce its wavering tone. This wavering signal is perceived by the listener as a reproduction of the original sound source.

Because there are no frictive contacts anywhere along the digital recording path, there is no "noise". Digital Industry promoted this "noiseless" feature. Noise was presented as a contaminant, for the germ-phobics to dread and hate. But here there was no noise. Clean. Sterile. Pure. Accurate, clean, noiseless, graphic, detailed, sharp, crisp...it was apparent that "audio perfection" had been achieved. Perfection. The summit.

ULTRA-HISS

When digital-eager consumers complained that early CD playbacks sounded "brittle", engineers raised the sampling rate and established different "CD grades". It was again believed that both higher sampling rates and higher "graphic detail" would "satisfy the ear".

Despite this adjustment, numerous highly qualified analysts reported that CD playbacks continued to sound "cold and harsh". Some stated that their ears actually "hurt" after hearing digital recordings. In addition, a strange "ultra-hiss" became the newly

discerned noise of digital ware.

This strange manifestation was thought to be caused by the spaces between digital holes. The on-board tone generator voided the time-fraction where code was missing coded chain. No signal was produced. This made each coded tone come as a sharp peak. The peaks were distinctly perceived by the ear as a shrill hiss, appearing at the sampling rate (some 15,000 times a second). In addition, the coded sequence produced "interrupted" peaks. An abnormality. In the real world, sound is continuous. Real sound is not a series of tight peaks with sharp interruptions. The CD format was not yet perfect!

The strange "ultra-hiss" was a white noise, the results of interrupted spiked pitch peaks. The overall abrasive "sonic envelope" produced the "hurt" which many felt in their ears. Designers dutifully modified the tone generators, artificially producing smooth harmonic continuity between pitch peaks interruptions. This second "system adjustment" was announced by the Industry as necessary in the "new and experimental development" of commercial digital.

The adjustment managed to soften the CD sound somewhat. But the sound was still "different" to many listeners who tenacious clung to their analog technology after making the comparison. Analog still "had something" which digital clearly "lacked". Listeners could discern several "missing" features for which no official lexicon expressed, or was permitted expression.

LITTLE STATUES

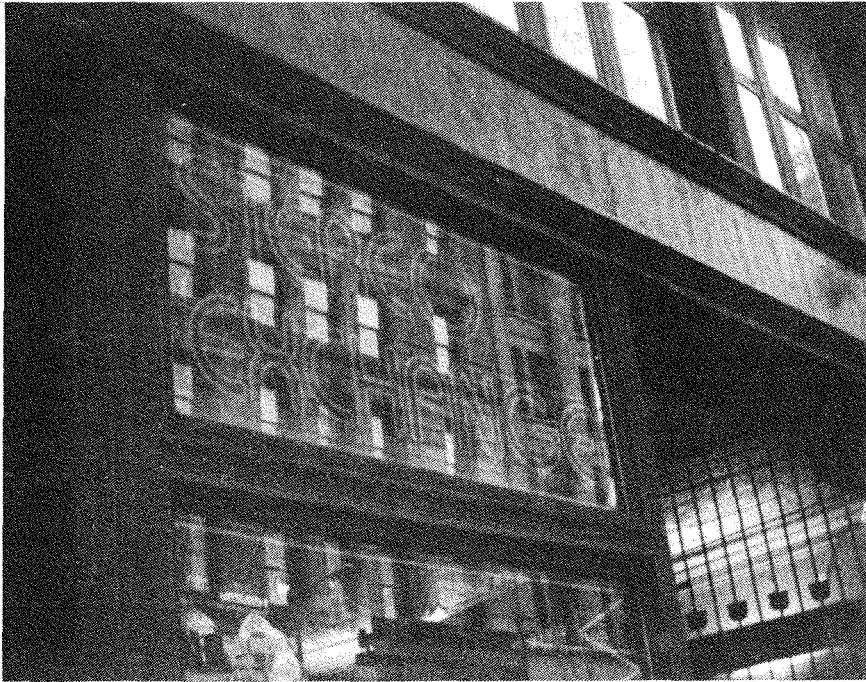
A defined and persistent "cold hardness" continued to pervade the overall tone of musical performances from CD's, a problem for which no mere electronic solution existed. Engineers pointed out that digital sounds were now graphically detailed, crystal clear, harmonically accurate, soft on the ears, and noise-free. They emphatically stated that there could be NO criticism. Digital sound was "perfect". SONY staff writers proliferated their banter in the public media forum, implying that anti-digital commentary was pseudo-scientific, tantamount to acknowledging stupidity. The sounds, the signals, they declared were "perfect". But CD reproductions were nothing like the promised "live performance" feel which the hype originally promised.

Little children knew the difference between the machine and the performer long, long ago. Little children and romantics. The music box, with its innumerable coded stipples, is a digital reproduction device. So obviously the spirit of machines, it is incapable of expressions. Once coded, the device rings out its hauntingly disembodied melodies, never betraying the emotions of the designer. Its brass cylinder slowly turns out the twinkling chimes...without a soul.

Made to best suit the musical expressions of the times, CD media best prevailed as the perfect storage medium. Emotionless expressions lacking detail or finesse are best recorded in digital format...where emotional content is not important. Oh yes, the sounds, the signals, were perfect. Perfect but inert. Perfect but vacant. Perfect, like statues are perfect. But alive, capable of transacting emotional volume? Certainly not.

GLASS WINDOWS

The historical development of recording sciences having been



summarized here, we have seen that the technical goal of reproducing the live performance feel has never been realized. Can it indeed be reached? If not, we need to know why. All recording systems are overtone "synthesizers", heirs of the erroneous Helmholtz overtone synthesis theory. Recording systems are subject to every failure which the Helmholtz theory compels. In the acousticians' lexicon of ideas there was no reason why a recording should not sound exactly like a live instrument.

Like the grand pipe organ makers of the century before, recording industries believed that an improved recording science could actually reproduce the very presence of live musicians. Locked in a curious tautology which consistently brought them face-to-face with live performance, acousticians could not read the simple message in the maze. Struggling with their "missing component" paradigm for decades, they somehow failed to recognize the significance of what they were seeking. The essential missing component was not an audio feature at all, it was simulacrum of life. *Generating life...in the medium.*

No acoustician could ever read the message which their own senses informed because they were trained to ignore their senses! Ignoring their senses, they continued perfecting systems and technologies which continually eradicated sense and consciousness. Alienating science. Alienating technology.

Despite the dramatic magnifications in recorded fidelity, reductions in noise, complete revisions of recording modes however graphic or noise free, no media-stored overtones could either synthesize or reproduce the "live performance" sensation. It is the thing which most people call "presence". Yes, musical or speech recordings are indeed missing a component. A QUALITATIVE component.

Like glass windows through which we "see and do not touch", we FEEL the inherent separation between musical recordings and ourselves. The feeling does not pass away however "educated" in

the quantitative explanations we become. The separation, the isolation between ourselves and recorded sound persists in domains which surpass the mere acoustic signals. How is it that recording technology, however advanced, isolates percipients from all of the live sensations projected by live performers?

SENSORIUM

Because quantitative analysis so effectively filters out all human experiential components, it is therefore incapable of supplying human percipients with real information concerning their own experience. It is impossible for statistically assessed data tables, sourced in inertial measuring tools, to make dictations to experience. Experience is the superior. Measurement the inferior. The elegant acoustic physics which Helmholtz pioneered empirically failed to perform its own ideal. Therefore, to answer these questions pertaining to media, we must pass outside of the limiting quantitative confines into Qualitative world examinations.

Human experience is the final criterion and aim of all reproduction media. The media and Media Industries exist to serve human experience. The media and Media Industry do not make dictations to fundamental consciousness which exceeds human agency.

In the ancient view, the world was flooded with fluidic and freely mobile sensations. Sensations were known and mapped as world-permeating currents which all living things intercepted and experienced in varied degrees. Specific places flowed with specific sensations, honored as sacred zones. Ancient maps show these winds and currents, tracings which correspond to no water courses, however anciently examined.

All sensations were understood to be externally sourced currents, inherent in nature and continuous in extent. Experience was seen as an internal reception of external continuity. Emotion and sensation were world-inherent, not applied or projected. Sensation proceeded from the world into human experience without change. In the ancient view, what we feel is what permeates the world. There is no change in the interception, save one of intensity or completeness. Human experience was anciently seen as a small fraction of world-permeations which angelic beings of greater purity knew. Each sentient being experienced some part of the magnificent whole.

By this view, emotion and sensation are world-inherent. They are received into and sampled by the human sensorium, becoming EXPERIENCE. Human beings, as recipients, are not autonomic generators of sensation. Sensation is not limited to this body as the behavioralists claimed.

Recipients are passive receivers of external supply. Thought, vision, consciousness, sensation, all were viewed as the external continuity. The whole living world of sensation. This may be proven with appropriate instrumentation in angular geographic examinations. It will then be found that sensation and consciousness vary completely with natural locale. The supposed "homoge-



neous conscious space" is overthrown by experiment.

Beyond this fact, human modes of experiencing the world surpass the mere examination of inertial pressures and forces. Human sensibilities inform science of realities and domains with which surpass the registrations of existing measuring devices. It has been difficult to develop inertial measuring devices which reveal any real interactivity with experience. EXPERIENCE surpasses measurement. Consciousness surpasses quantitative science. This is the very manifesto of Qualitative Science.

EMOTION

Quantitative science never considered the possibility that sounds contained "para-acoustic components" which stimulated human discernment with deeper than acoustic contents. These para-acoustic components are very evidently filtered away during the very act of recording, however advanced the recording mode. Human sensibility discerns the difference.

Exposed to the performance of virtuosi, the human sensorium responds to MORE than acoustic energies. The difference is one which is...felt. And CD recordings do not grant this sensation. We hear the high-definition soundwaves, but feel nothing. There is a very defined and curious lack of emotional response when hearing CD playbacks. It is an emotionless state which is disconcerting. There is a very insidious aspect to this media pervasion. Furthermore, one does experience strong emotional involvement with analog recordings...especially with the older bakelite cylinders and discs. The sensations received during these old analog playbacks are deep, permeating, and long-lasting. One experiences recurring emotional "flashes" long after hearing cylinders and old bakelite discs. In this capacity, these media behave more nearly like live performances.

LIVING SOUNDS

What is that "live component" which all recordings filter, and which CD recordings effectively eliminate? How can we know what it is we are looking for? We must begin again at the beginning. Find

the item which was originally eliminated from the scientific study of sound. What was it? Feelings? Sensations? Is sound therefore much more than a mere succession of pressure waves in air?

Those who have spent any time at all listening to artists have also recognized a continual radiance of moods and images which proceed directly through recordings. Familiarity with records has exposed the listener to a veritable tide of such mysterious para-acoustic signals. The miserable failure of CD's to reproduce that "live feel" reveals a basic inability in acoustic physics to comprehend the real source of what it is to be "alive".

Digital recordings are interpretations of sounds, not true recordings of sound. Coded streams are interruptive streams. Assigning numerical values to a tonal stream has no means for encoding the emotive signal. Failure to recognize basic energy

transactions which occur during live performance produces a wide gap between the performer and the resultant recording.

The gap is one which is non-acoustic in origin. This being true, the mere improvement of audio technique will never bring us closer to the feeling of "live performance". The signals which we seek are not acoustic at all. They are a distinct domain of energies which manage to encode themselves along with the recorded vibrations. Somehow, material media can absorb these strange emotive signals. A fortuitous accident of tremendous import.

AURIC PROJECTIVITY

While not giving listeners the promised "live performance feel", there do remain certain residual sensations which mysteriously do manage to "leak through" certain kinds of recordings. How may this be comprehended? Consider the manner in which recording sessions are arranged.

Performers project whole and meaningful expressions into their surrounding space. Phonographic recording systems were specifically designed to capture only the acoustic components of otherwise broad expressive projections. Recording systems truly filter away more than audio engineers have ever imagined. Despite this filtration process, the obvious ability of records and tapes in transmitting certain degrees and species of emotive and visual components must be comprehended.

The emotional projections from a performer represent an energy which has never been addressed by acousticians. The human sensorium is sensitive to radiances which have never been addressed by the quantitative researcher. These emotive radiances are powerful. Notes alone, when graced by the heart of a violinist do not make tears flow. Some para-acoustic component entwines the heart-felt notes and reaches our innermost being with their emotive message.

PARA-ACOUSTIC STORAGE

Emotive and eidetic components can actually be stored in

material media. The process is mysterious, inspiring lofty new technologies which have already been developed in their primitive form. Both visceral impressions and eidetic visions are recorded in media by this strange and wonderful process. Once recorded, emotions themselves are frequently, and powerfully, projected from record media. Such signals project as discharges from the recordings with strength dependent on the medium alone.

Such phenomena evidence interactions which are truly auric in nature. The sunny warmth of a recorded smile exceeds the mere physiological modifications accompanying the elicitation of a smile. Emotive distinctions may not be quantitatively analyzed as a complex shift in "overtones", the result of modified vocal musculatures. There are more varieties of recording-projected sensations which exceed the acoustic signals, being recorded during "silent moments".

The predominant mood or transient emotive attitude of performers may be discerned by careful listening to recordings. These signals are found despite the sounds. They are among the sounds which have been recorded, but they do not rely upon the sounds at all. The evidence of "silent" emotive storage on recording media has been studied with repeated affirmations. Artistic emotional states have been recorded in absence of song or speech. In such instances, one senses the emotional expressions of recording artists by some strange "silent" projectivity.

It is possible to "track" a performer's mood in between vocal expressions; the mood being a residuum, a continuum between long silent intervals. There are more than emotive species among these para-acoustic signals. In some rare manner, the "room space" and "mood" of a place can be recorded on magnetic tape. The recording medium manages the capture of eidetic discharges directly from performers. Playbacks represent an eidetic memory system by which percipients may recall completely forgotten thoughts and prevailing moods of a time long past.

These emotive energies project with strength during silent intervals, showing that they are indeed distinct from the acoustic signals. These incidentals have been noticed by sensitive inspections of older recordings, analog media demonstrating surpassing ability in recording such signals. In what manner are "silent smiles" and "foreign landscapes" recorded on magnetic tape? Or emotions? How are they recorded on magnetic tape? Where are they stored in the medium? Do they permeate the medium in ways which have nothing at all to do with particulate matter? Do they surpass quantum artifacts? Are the fantasies which recorded music inspires mere mental associations, or are they tunnel-like glimpses of ancient scenes?

The responsivity, storage, and retrieval of such para-acoustic components by recording systems has never been properly or thoroughly addressed by audio engineers; nor indeed can it be. The components of which we speak have no precedent in the recording arts.

Nevertheless, these purely emotional expressions do "record". And they record best on certain media, most poorly on others.

Recording media never reproduce the emotive projectivity of performers with equivalent amplitude. It is obvious that recording systems vary in their emotive-responsive ability. It is also obvious that recording media display varying ability in storing emotive energies. Emotive energies of performance are therefore largely wasted on most recording media.

ARTICULATE SOUND

There is an unsuspected environment which suffuses utterances and instrumental sounds. Sounds are pulsating volumetric continuities, having incredible information encoded in the spaces through which they spread. When properly examined in volumetric extent, it is found that sound spreads in a vegetative manner. Sound cannot be simply "sampled" from a point-site. While this quantitative treatment succeeds in retrieving mere pressure-wave information, it fails to accurately discern the patternate qualities which flood space whenever utterance is made.

Sounds are not pulsating discontinuities. Point-inspections are inadequate means for assessing this fact. Sound is volumetric, containing sensate-extending dialogues which search out and seek recipients. The qualitative portion evinced in utterance actually curves into recipients, growing with both time and attention. Acoustic pressure waves are inertial ponderances, the mere by-products of the articulate movement of utterance through space.

There is only one author, to my knowledge, who has ever adequately engaged this examination. Projected sounds have impossibly complex details which exist ACROSS wavefronts. This complex patternation of space permeates the volume through which utterances are made.

Margaret Watts-Hughes (Eidophone Voice Figures) made



astounding dust impressions of these patterns by speaking and singing into a large area tympanum. In these, words became images. There is a far deeper nature to utterance than mere acoustic wavefronts of inertial pressure. There is in fact an articulate component, an articulate signal, which projects during vocalization into the environment. This articulate component is broad, volumetric in extent. It is inertia-free. It permeates into and diffracts around diverse materials. It is the emulsifying agent which precedes and produces the acoustic pressure waves upon which quantitative science is so intently focussed.

When this primary articulate component, true sound, is received, we feel "warm...and soft". The proper absorption of articulate projections among human communicants produces the warmth and softness of positive human contact. Here then is the component to which sensitive listeners were attentive. While listening to Edison cylinders, bakelite discs, vinyl discs, magnetic tapes and CD's, the human sensorium discerns differences in the articulate content stored in each medium.

It was therefore not impossible for human listeners to feel the "warmth and softness" of high articulate density projections from Edison's cylinders, old discs, vinyl, and magnetic tape recordings. All Analog recordings rivalled the "improved acoustic detail" of CD's, cold and vacant by comparison. Incapable of storing the articulate content of sound, CD's remained the "cold, hard, impersonal" recordings which consumers sensitively observed.

RADIONIC EVALUATIONS

Numerous Radionists have discussed the storage of vital and emotional states in material substrates. Such objects of study were detailed by Dr. Abrams as "capacitor storage", and by Dr. Drown as "voice-print analysis". The means for qualitatively analyzing articulate radiance was therefore available to science early in the century.

Radionists have tremendous advantage when actively comparing or contrasting qualitative world-phenomena. The experiential portion of human nature is fundamentally auric in nature. Only Radionic Instrumentalities can extend and externalize the human aura, the human sensorium being the ONLY means for assessing experiential energies. Radionic Instrumentation successfully externalizes qualitative energies in physically disposed demarcations, the so-called rates. Having nothing to do with vibration, the radionic "rate" is a sensitive point to which human auric anatomy clings.

Careful attention reveals that these "stick points" contain sensation currents, some emotional and others visual. Experiential signals include visceral (emotive impressions) and eidetic (visual impressions) components. Currents contain varied proportions of each such species.

Qualitative sensitivities alone can discern and divide between analog and digital media content by comparing the auric patterns which they project in playback. While ordinary "naked ear" examinations of recordings gives mild para-acoustic signal intensities, the radionically entuned points greatly magnified these articulations. Entuned radionic examinations of several media produced truly intriguing and revealing results.

Sampling sound by direct contact, it is possible to obtain radionic examinations of recorded sounds. Therefore sound, from

ordinary loudspeakers, was allowed to play upon a sheet of aluminum foil. This vibrant "receiver" was connected to a small radionic tuner, employing variable capacitors. The physiological connection to this radionic source used a single wire which was connected to the instrument's output terminal, a hand-held aluminum rod. Articulate emanations from various media were allowed to play through the aluminum sheet, while "sensitive points" were sought by adjusting the variable capacitor.

In the light of Radionic Science, it is not at all difficult to define the meaning of terms such as "soft" or "warm", "hard" or "cold". These terms represent the more superficial qualitative sensations within which move more prolific and articulate eidetic currents. Different recording media were studied through radionic means. The experiments can be reproduced to satisfaction.

First, it was found that any Analog medium flooded over with rates. The instrument could not be varied very much before STRONG discharge points were located. Numerous easily entuned analog rates discharged strong eidetic images on contact. Visionary discharges were found to be excessive during vinyl and magnetic media playback.

It was not therefore surprising to find that digital recordings gave exceedingly WEAK and indistinct radionic discharges. The discharges were there, discerned only through sharp radionic tuning. Even when entuned, these points gave no emotional or visual emanations whatsoever.

This explains why CD's seem "cold, vacant, and hard" to the human sensorium. Acoustically perfect, they evidence a strangely depleted auric content. Digital systems, having ability to separate inertial and auric components, demonstrate the fact that auric signals and inertial signals are two very opposed entities. Converting articulations into numerical codes, and then punching holes in aluminum foil to store the numbers, digital recording systems cannot store these emotive signals.

Microphones and amplifier systems also influence the accurate reception and storage of emotive signals. Acoustic clarity does not often matter when emotive signals are powerfully recorded in certain systems. The old Edison recordings poised performers directly before large horn microphones. In this manner, whole articulate patterns were actually deposited in the media cylinders. There is a remarkable "warmth and softness" to these recordings, despite their scratchy "music box" sound.

Recording systems which utilize numerous microphones receive more of the space-volumetric articulate patterns which performers constantly project. This is why the old "one take...live" performance recordings were so powerfully sensate, saturated in emotional and imaginal components.

After the Edison horn-diaphragm microphones, carbon button microphones demonstrate the most powerful articulate receptivity. Neumann studio microphones, as with all magnetic devices, offer irritating resistances to emotive articulations. Remember, the emotive articulations permeate and intermingle with undulations which modern systems are made to record. The emotive articulations themselves are not the acoustic waves, requiring a completely different kind of system and medium for their accurate storage.

Comparative radionic examination proves that, in today's yet-lingering analog market, vinyl records and magnetic taped media best preserve emotional and eidetic signals. But better than these

are the oldest recordings, recordings pressed from masters in bakelite. In order of emotive signal power, the Edison phonograph cylinders are the most powerful radiators of emotive signals. After these, the oldest bakelite disc recordings follow in emotive signal strength. Vinyl follows these, with magnetic tape last in the analog list.

Now why do these recordings preserve emotive signals at all? Surely, the phenomenon is an "accidental". So what is it about the materials and systems which enabled this surreptitious inclusion? Radionic inspection of each media showed that emotive signals were fused with the "record track" in very specific spatial dispositions.

The bakelite cylinders powerfully radiate emotive components in-line with their trackline, their graphology. Their intensities transcend any other recording medium. Older bakelite discs show that emotive signals are stored on the edges of tracklines, this presumably the result of the transverse needle impression method. Vinyl follows these in emotive radiant strength. Obvious in all of these phonograph inspections was the heavy reliance on carbon-rich matter...bakelite and vinyl...as the recording substrate.

Magnetic media showed a medium emotive presence, with one revealing curiosity. Emotive signals in magnetic media are thrown away from the magnetic track line, to the outer perimeter of tape. The opposition of emotive and magnetic signal conforms with theoretical models which I have discussed in connection with environmental VRIL dynamics. As human aura is a personalized and shared extension of environmental VrIL, we must also consider the manner in which recordings move within this environment.

Articulate extensions enter recording media as those media can absorb VrIL. Historical evidences, taken from telegraphic and telephonic patents, show a heavy reliance on carbonaceous materials. these were empirically found to render greatest abilities in reception, transmission, exchange, and magnification of line signals. Magnetic materials, ferrous emulsions, evidence certain emotive absorptivity, but with indirect storage pattern. Magnetic media irritate VrIL articulations. Magnetic domain neutral zones store VrIL, which swirls and imprints around the magnetic domains. Magnetic irritants cause an auto-magnification of VrIL, storing such signals in tight clusters at magnetic peripheries. Magnetic domains are surrounded with a tight ring of these auric permeations.

Auric inclusions among acoustic signal graphologies determine the radiant strength of the medium. The undulating scratches in phonograph records reveal those endless curves. These are the articulate domains, stored edgewise into the discs. bakelite stored the signals best, vinyl following.

What we observe, when examining progressively modern recording media, is a progressive expulsion of emotive signals from the storage medium. This progression reaches its acme in digital recordings, where the emotive signals have been thrown completely away from CD graphology...the ultramicroscopic perforations. Only faint emotive impressions persist in CD's. Lacking direct vibrant graphology, they do not store emotive information. This is why they "feel cold", like something which is dead.

There are those who discuss re-infusing digital recordings with their emotive signals. Using a priority means for amplifying these faint emotive traces, certain designers have successfully "warmed up" CD recordings. The process wears the listener out, producing

powerful muscular tides and irritations, the result of excessive magnetic energies used in the process.

In conclusion, the act of communication is the exchange and transaction of patternate auric threads. Systems which best engage these patterns store emotive signals. Analog technique stores emotive signals best, longitudinal impressment of graphology exceeding all successive improvements. Organic matter stores emotive signals best. In these may be comprehended something of iconic mind storage, the eidetic technology of which much has been mentioned. ■

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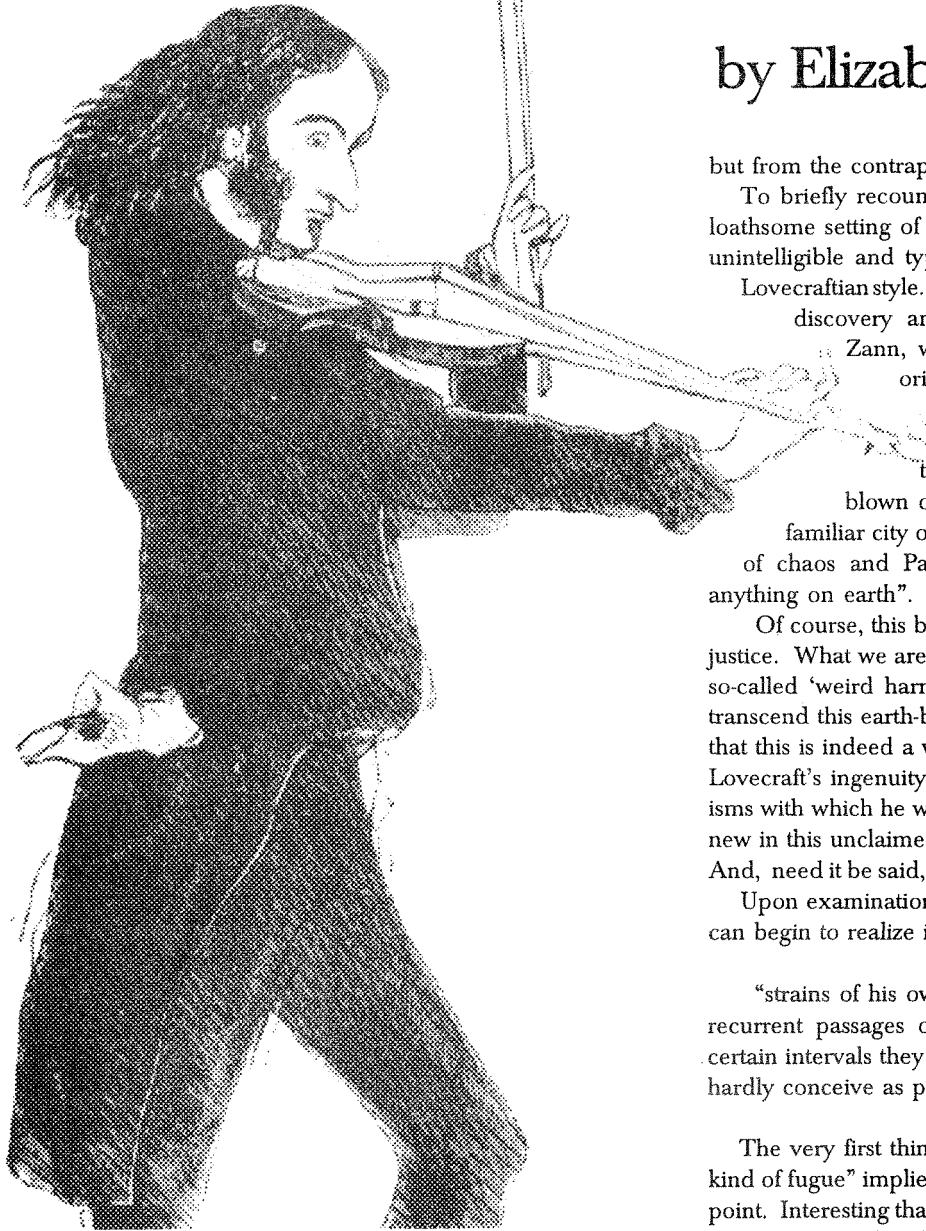
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The Music of Erich Zann

by Elizabeth Delia Worthing



but from the contrapuntal magic of his musical improvisations.

To briefly recount the story, we are at first introduced to the loathsome setting of the infamous Rue d'Auseil in the seemingly unintelligible and typically anonymous first-person ramblings of Lovecraftian style. We are shortly thereafter led to this character's discovery and subsequent befriending of a Mr. Erich Zann, who is described as "a composer of highly original genius". In the end we find Mr. Zann furiously thrashing about his violin, eyes bulging, cold and zombie-like, while his guest takes a peek out the window through the blown open shutters and to his horror finds not the familiar city of lights below but "an impenetrable darkness of chaos and Pandemonium [*sic*] having no semblance of anything on earth".

Of course, this brief 're-telling' certainly does not do the story justice. What we are really interested in is the exact nature of the so-called 'weird harmonies' with which Erich Zann was able to transcend this earth-bound dimension. We needn't be reminded that this is indeed a work of fiction. All too often we have noted Lovecraft's ingenuity at crafting a tale around the diverse occultisms with which he was versed. That we hope to learn something new in this unclaimed region of music is our dominant objective. And, need it be said, ...this definitely isn't the music of the spheres!

Upon examination of the descriptions of Mr. Zann's music we can begin to realize it for its evocative powers:

"strains of his own devising...they were a kind of fugue with recurrent passages of the most captivating quality," and..., "at certain intervals they assumed a symphonic quality which I could hardly conceive as produced by one player."

The very first thing of note is that these "strains which were a kind of fugue" implies the most highly developed form of counterpoint. Interesting that Lovecraft should harken back to the days of the contrapuntal stylings of the Baroque era when he should at once be more familiar with the more modernistic compositional prowess of his day, but we shall soon come to understand his most profound choice.

The contrapuntal style, in its essence, is the dimensional crossroad of musical form. In certain mystical traditions, the crossroads beholds an undeniable puissance whose intersection is the gateway to otherworldly dimensions betwixt the planes. This crossroad "conjuring" is most pronounced in the Voudoun systems of ritual and is helpfully summoned by the polyrhythmic drumming of their Petro Rites. Likewise, the polyphony of planar melodies in the contrapuntal songform with its interwoven conjunctions and inversions creates the same gateways but with seemingly

HOWARD Phillips Lovecraft is most widely recognized as the author of such preternatural works like *The Call of Cuthulu* and *The Colour Out of Space* but a most fascinating work which I have never seen even a brief mention of is *The Music of Erich Zann*.

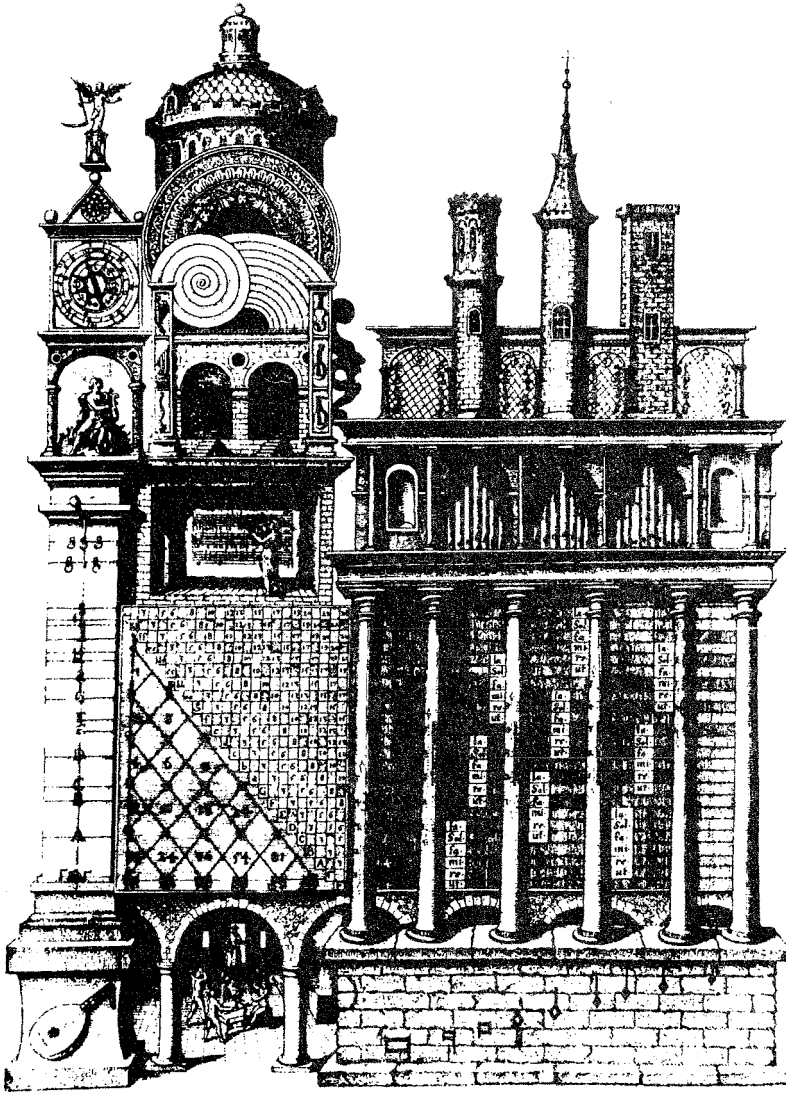
Lovecraft would speak of calling forth the Old Ones to once again open the gates through which those of the void will re-enter, to confront Yog-sothoth, and to enter the realm of abysmal chaos in uncharted countospace.

These are the unequivocal actions of Erich Zann whose evocative powers did not come from the recitation of verbose incantations alleged to the great Book of Dead Names, *The Necronomicon*,

Octaves of Time

Spiraling Time Cycles in Western Astrology

By Judith A. Hill



changing octaves. Circular time cycles always repeat within the same time frame (rate of matter in motion).

Professional cycles analysts, including astrologers, observe and graph the changing seasons—the highs and lows of the circular type time cycle. Astrological “Transits” largely describe time cycles of the circular type. However, such circular cycles are not the type of time cycle responsible for astrologically “progressed” events!

When an astrologer “progresses” your birth chart, he/she calculates your years of age as though they were actually days in the ephemeris of planetary motion. For instance, let us say you are now 35 years old. Beginning with your day and year of birth, the astrologer calculates exactly 35 days forward from your birth date and time.

WHY should the 21st year of our lives correspond to our 21st day, long ago, lying as infants in our cribs? This is, after all, the premise of two widely accepted systems of time cycle replication known to astrologers as “secondary progressions” and “solar arc directions”. For our purposes here, we will refer to all a-day-for-a-year systems of time replication as the more popular “Progressions”. But how and why do progressions work? As I will be discussing time, let me first define the word “time” as applied to this article: time is the rate of matter in motion. Every creature experiences time’s rate of motion uniquely. Everything in our chemical-molecular universe moves and changes according to rhythmic cycles of time. It is important to distinguish between the two types of time cycles commonly used by Western astrologers.

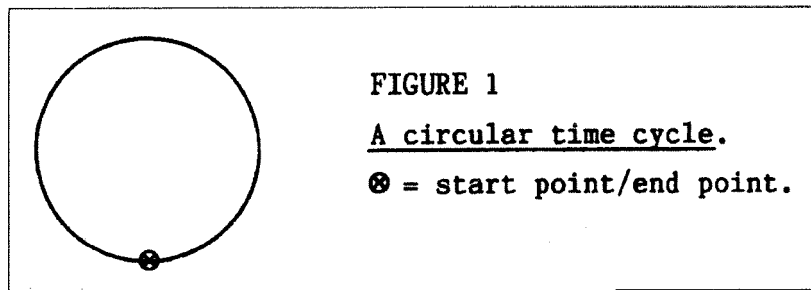
Rhythm is beat, and the returning, regular beat is easily recognized as a cycle of the simplest kind - the circular time cycle (See Figure 1). For example, Jupiter returns to the same sidereal position each 11.86 years, the earth returns to 0 degrees Aries each Spring Equinox, and you might eat breakfast at 7 a.m. each morning. Such exactly repeating cycles as these can be compared to playing the same scale on the piano over and over again—without

In this manner, your astrologer now observes your “secondary Progressions” for your 35th year, and interprets the chart according to where your birth planets have now arrived at in ecliptic longitude (these “progressed” positions, of course, do not operate in a vacuum, but must be compared with the birth chart and with the current positions of planets at the time, known as “Transits”.) Should your astrologer prefer “Solar Arc Directions”, then all planets are progressed forward at the precise rate of the Sun’s travel through the 35 days of life and this then gives us the position, by “solar arc”, of the planets at the 35th year. Many astrologers incorporate both systems. Most typically, astrologers use a combination of “progressed” and “transit” planetary placements to establish the major influences and events for the life period of concern to their client.

There is a great difference between time cycles of a circular nature (described above as pertinent to “transits”) and the more complex “spiral” type time cycle basic to most types of astrological “progressed” work. Let us use a simple numeric model for comparing circular and spiral type time cycles. We can choose to count from one to ten and then begin over again. This repetition of the same ten numbers forms a circle, and therefore can be called a circular cycle. Now we can again take the number ten and extend

it exponentially by counting 10, 10x10, 10x10x10, *ad infinitum*. In this picture, each exponent of 10 can be (loosely) compared to corresponding octaves of time within a spiraling time cycle. Number is essentially rhythm, or beat; and the rate and spacing of beats is what we call "vibration". The vibration or rhythm of the unfolding rungs of a time spiral are always exponents of the fastest base beat known to begin the series.

Although time spirals can infinitely extend exponentially in either direction (faster or slower time frames), the human life is, of course, limited to certain ranges within the continuum of earth species. We can only respond strongly to certain cycles within perhaps two or three octaves expanding outward from our first day of life. In other words, human beings do not live within the faster vibrating time frame of a beetle, or the slowly pulsating time spiral of a giant redwood. People visibly respond to cyclic links of day, month, and year, but it is more difficult to catalog correspondence between the brief seconds and minutes of our lives, and much later, hours, months, and years!



Astrological "Progressions"¹ are based on exponents of "time" (the rate of matter in motion). This can be depicted by comparing one minute (60 seconds), with one hour (60 minutes), The hour is therefore a "time exponent" of the minute (60x60). In Lilliputian progressions, the 21st hour of our lives would correspond to our 21st minute!

Musicians, as well as others, may find an auditory model more appealing, and a scale of notes can be repeated, perhaps indefinitely, at higher and higher octaves. The lower octave on the piano, beginning with "C", possesses the same tonal intervals as the highest octave, but in a lower pitch. What is it that makes us hear the low "C" and the high "C" as the same note? In fact, they are not the same note at all! However, they do share a close vibratory frequency in relation to the scale of notes. Although of differing octaves, the two "C"s" resonate so closely that we undeniably hear the powerful sameness, or resonance, between them. Translated into time, we could say the fast moving high octave represents days and the slowly vibrating lower octave represents years. Where tonal ratios duplicate themselves between the octaves (e.g. high "C" and low "C"), we have a tonal resonance. A resonance between two precise moments of higher and lower octaves of time (rather than musical notes!) is the theoretical basis of astrological "Progressions".

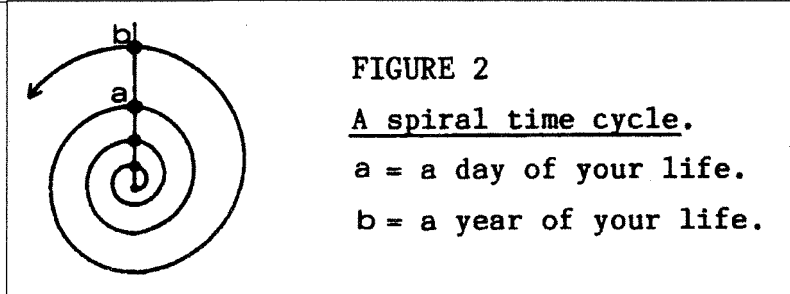
Spiraling time cycles are comprised of vibrational resonances occurring between two (or more) "exponents" or, more precisely, octaves, of a particular unit of time. The day, month, and year form the octaves of time most typically used in calculating astrological

progressions. Figure 2 demonstrates the "exponential" nature (described later) of these three favorite time units. Drawing a straight line through any spiral creates linkages of resonance between the "time exponents" involved. The straight line creating the linkages represents an individual's life. Note "A" and "B" and "C" are joined in Figure 2 by a straight line.

The linkage of "A" (the day), and "B" (the year), corresponds to the resonance of low and high "C" on the piano. Thus, the quesited 21st year of your life resonates strongly with the 21st day of your existence. You may have little memory of your 21st day because it occurred in a time frame (rate of matter in motion) now too fast for you to recollect. However, this lack of memory does not preclude the fact that a vibratory resonance joins the years of your life with your earliest days of life.

Should human beings one day come to greatly extend their life span, it would then be plausible for us to define a 3rd exponent of the day=equals=year time spiral. We could speculate that a "great" progressed cycle lasting 21 years in length might correspond to, or resonate with, both the 21st day of life and the 21st year. Conversely, were our life cycles as brief as the butterfly's, we might find meaning in progressed cycles at faster ends of the octaves of time available to us, i.e. the 21st minute of life!

But why a day for a year? The earth will turn once on its axis (roughly) every 24 hours. In 24 hours, each of the 360 degrees of celestial longitude will pass overhead, and geocentrically viewed, the Sun will



move once around the Earth. By day, the Earth spins once on her axis, allowing the 360 degrees of ecliptic longitude to spin once around her. How might this daily rotation be astrologically linked to one earth year? Very simply, in every year the Earth travels once around the 360 degrees of ecliptic longitude—her orbital path around the Sun. Thus we find that the daily rotation of the Earth about her axis is closely linked to her yearly orbit around the ecliptic plane through completed circles, or cycles², of orbital motion through the 360 degrees of ecliptic longitude. Simply stated, it takes one Earth day for the Sun to orbit the earth and one earth year for the Sun to orbit the Earth, and both orbits encompass circles/cycles equaling 360 degrees. The obvious clock gear analogy between these two cycles (day and year) establishes the time-unit resonance necessary for astrological "secondary Progressions" and "solar arc directions".

A third method known as Tertiary Progressions, based on the moon, utilizes a similar concept. Fred Gettings (*Dictionary of Astrology*), reports two methods referred to as "Tertiary Progressions".

sions". First is the one-month-equals-one-year method. This type of tertiary progression compares the first month of your life with your first year, and so forth. The second method is based on the tropical lunar month of 27.3216 days (the Moon returns to her own radical pace precisely within this time) as equaling one year.

Both of these lunar based "tertiary" methods reflect exponential extensions on a spiraling time cycle through linked intersections of resonance based (as are secondary progressions and solar arc directions) on completed orbits of the 360 degrees of ecliptic longitude. The small circle (the Moon's transit through the 360 degrees of ecliptic longitude, or one lunar month) is linked through resonance with the larger Earth's orbit through the ecliptic plane of 360 degrees (year). The astronomers among us will of course remind me that the year is not exactly 360 days, nor the lunar month 30-31 days long. No doubt, for extreme accuracy, these adjustments should be taken into account.

There are many other types of Progressed methods, some quite inventive, that are beyond the scope of this article. Readers interested in pursuing a comparative study of progressed techniques are invited to peruse the bibliography.

SUMMARY

- 1) Time is the rate of matter in motion.
- 2) Time is perceived as faster or slower depending on the time frame of the experiencer.
- 3) Astrologers chart several types of time cycles of which the human organism has been found to respond. The two most popular to Western Astrologers³ of the modern era are: Circular Time Cycles and Spiral Time Cycles.
- 4) Astrological "Transits" represent largely the circular type time cycle. Astrological "Progressions" are based on the mechanism of the Spiral type cycle of time.
- 5) The basis of the Circular Time Cycle is repetition of sames. The basis of Spiral Time Cycles are selected time units projected exponentially, thus forming linkages of harmonic resonance between lower and higher octaves on the spiral of exponentially projected time units.
- 6) Completed orbits of Earth, Moon or Sun through the 360 degree circle of ecliptic longitude establishes the theoretic basis for Spiral Time Systems, or "Progressions" based on day=month, day=year, and month=year.

Footnotes

1. Inclusive of "secondary Progressions" and "solar arc directions" as mentioned in opening paragraph
2. circle=cycles
3. Vedic, Babylonian, Greek, early Western, etc. time systems have not been addressed in this article.

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JUDITH A. HILL is a second generation astrologer with 26 years of consulting experience. She is the author of *The Astrological Body Types: Face Form and Expression*, (Available from Borderland Sciences, \$17.95 + p&h). She served as the educational Director for the San Francisco NCGR and as faculty member of the Institute for Stellar Influence Studies. Perhaps best known for her innovative work in astrological research, she has lectured at many conferences within and without the astrological community. Her international publications of scientific research ("The Mars-Redhead Link" with Thompson, "The Regional Factor in Planetary-Seismic Correlation" with Polit, etc.) have been widely acclaimed as major breakthroughs in the field of astrological research. Judith achieved 100% accuracy in the matching of five anonymous birth charts to biographies in a 1986 skeptic-designed NCGR sponsored contest. She currently authors the series "Astrology, A Philosophy of Time and Space" for *Sufism* magazine. Judith runs a full-time consulting practice in Portland, OR, and specializes in Vocational Astrology.

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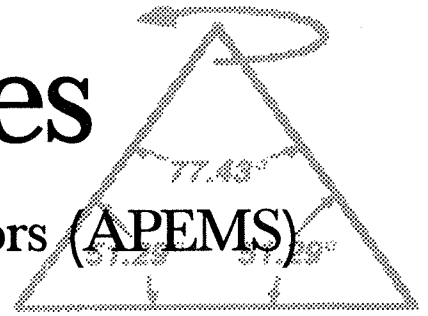
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Pyramids & Cones

Ambiently Powered Energy Manipulators (APEMS)

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ONE complication with the field of emerging technology, destined to be the basis of tomorrow's science, is that it is too big. It has so many facets that every once in a while, worthwhile concepts get forgotten as diverse new matters continuously attract our attention. Pyramids and cones illustrate this point. Both they and other structures "process", control, or otherwise manipulate at least one form of ambient energy without the use of any other energy input. As a group, all of such items may be referred to as ambiently powered energy manipulators (APEMS).

This article is intended to discuss the current state of knowledge relative to these devices. To avoid confusion between such structures and those which do not have any significant or material influence upon any ambient energy, any subsequent reference to either pyramids or cones in this discussion is intended to designate energy-affecting pyramids and cones unless a contrary meaning is clearly intended. The latter may be referred to as "APEM type" structures.

Pyramids, as are significant in connection with tomorrow's science, are still "in", that is in the sense that there is a substantial amount of current references to them, even though they seem to have lost some of their attention-getting ability. On the contrary, cones seem to be gradually slipping into the forgotten past. Stein's justifiably popular book Mind Machines You Can Build (1992 G. Harry Stein, Top of the Mountain Publishing) illustrates this point. It has an entire chapter based on pyramids, and also references the pioneering work of Dr. Flanagan in this field, but it says nary a word about those closely related structures — cones.

Current knowledge about cones is very different than the present information about pyramids. The energy-affecting cones of recent interest undoubtedly have an unrecognized precedent in some structure or structures of ancient history and are capable of being compared with the pyramids of Egypt. No one seems concerned that this is probably the case. As a practical matter, current knowledge and recent past interest in cones appears to be almost entirely based on the work of a famous dowser, a Mr. Verne Cameron.

The restricted amount known to the general public relative to his activity with these structures is almost completely limited to the information reported in a series of periodicals entitled *The Pyramid Guide*. Fifty five issues of this publication were published from Sept. 1972 to September - October 1981 by various entities starting with an associate of Mr. Cameron, Mr. Bill Cox. To a very limited extent, the information gleaned from these publications, along with a supplemental discussion of Mr. Cameron's work with cones, appears in the booklet The Cameron Aurameter published by

Borderlands. Mr. Cameron died in 1974, prior to the issuance of these publications.

To put it mildly, both of these sources of information have serious limitations. They clearly omit much which one would anticipate that they might contain. Although *The Pyramid Guide* is saturated with materials pertaining to pyramids which affect energy, in going over all of the issues of it, the writer has been unable to find a single reference to Dr. Flanagan. Neither does it contain many other bits of reasonably common information concerning present knowledge of pyramids. When this is considered in connection with the relatively limited and apparently incomplete discussions of cones found in this publication, a person cannot help but wonder if there is information about cones which was known to Mr. Cameron (and probably others) which is now lost.

Both energy-affecting pyramids and cones are significant because they act as "concentrators" of one or more not yet identified forms of radiation. For convenience of reference, the energy or energies affected by these devices are subsequently referred to as a single form of energy even though there is a reasonable chance that this may be in error. These cones and pyramids do not originate any such energy; they merely "gather" it and either hold it, accumulate it, or send it on its way. This is usually as a beam or column in either the original or a modified form.

As a result of this, it is clear that both types of structures can be used as internal chambers containing concentrated energy or as sources of relatively concentrated accumulations or beams of radiated energy. In both cases, the energy may or may not be used to accomplish a recognizable result in accordance with the characteristics of what or who is contacted by the energy, the manner in which the energy is applied, and the nature of the specific form of energy present at the time something is contacted with it.

The range of utilities attributed to the energy associated with both pyramids and cones is too extensive to be discussed in detail in an article of moderate length. The list is so extensive, it is almost hard to believe. While cones have been used for less reasons than pyramids, it is normally considered that anything which can be treated in one of them can also be similarly treated in the other. These APEM devices have been used for such diverse purposes as sharpening razor blades, inducing mental reactions, preserving animate bodies and foods, upgrading cheap whiskey and tobacco, and affecting the growth and longevity of both plants and lower life forms such as bacteria and fungi. No references have been located in preparing this discussion which fairly or reasonably suggest that they may be considered as medical devices.

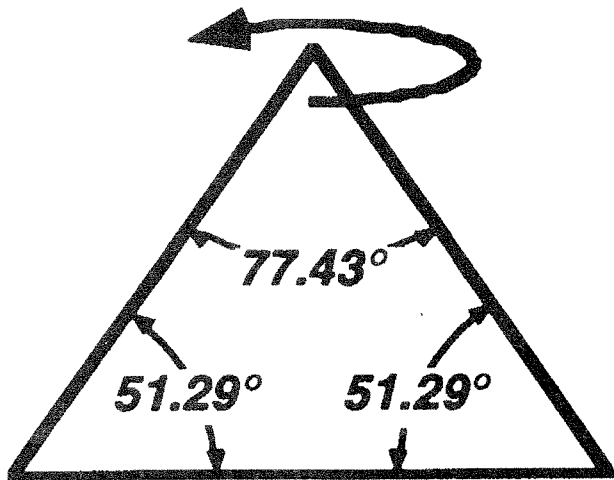


Fig 1

In general, most of the accomplishments reported as being achieved with either pyramids or cones are what those believing in only traditional science would either: (1) classify as belonging in the realm of science fiction instead of the real world; or (2) ignore because they do not "fit" within currently accepted technology. All too often, believers in non-traditional science, on the basis of their enthusiasm, grasp onto beneficial results that may not exist, while non-believers reject unquestionable results on the basis that they have, and will continue to, reject all that is associated with the occult.

Up to the present, the benefits associated with energy-affecting cones and pyramids have not been universally acknowledged. This is because of a lack of a simple, objective manner of measuring either the energy present at a specific time and location, or what in fact happens whenever one of these devices is used. Although instances such as the sharpness of a razor blade having been treated in a pyramid can accurately be determined with current, generally accepted techniques, such items are either relatively difficult to measure or do not seem to be otherwise satisfactory to gauge the energy or energies affiliated with cones and pyramids. As a consequence, there is often a lack of adequate, incontrovertible information as is needed to expand the closed minds of society that have been created by religion and established technology.

Some will object to this last conclusion. In so doing, they can be expected to correctly indicate that Mr. Cameron used a psychograph of his invention — the so called Cameron Aurameter — to locate energies associated with cones and other items. Unfortunately, information obtained by dowsing and other psychographic techniques is not yet regarded as being incontrovertible, even by those with knowledge in various branches of occult phenomena.

It is to be anticipated that in time, reliable, easily used methods of indicating the relative strength of the energy associated with a specific APEM will be developed or recognized. At present, it is considered that devices that are moved by mental energy in

psychokinesis will most likely be the initial structures used in determining the relative strengths of those energies associated with pyramids and cones that are used for different purposes.

Although it is inherent that all energy can be used either beneficially or detrimentally, the literature relative to energy-affecting pyramids and cones significantly avoids discussing material that has produced detrimental results. This seems wrong. Care should always be taken when trying an unknown energy for a new purpose, as to make sure that there are no significantly undesired results. The latter statement applies regardless of whether a cone or a pyramid is used to provide energy to something within the structure itself, or when directing a column or beam toward something located externally of the structure. As used in this sentence, "thing" designates humans as well as other living and non-living items.

When it is necessary to use a container to hold something to be treated, either in a cone or pyramid or by a beam of energy from either of these, the container should be at least partially transparent to whatever energy or energies which may be present. Currently, such transparency is best determined on an empirical basis. As a matter of routine, it is considered best to avoid using imperforate containers formed of common metals, certain types of glass (particularly lead crystal glass), and materials known to be impermeable to common microwaves.

Most individuals will consider that it is self-evident that a beam or column of energy from a pyramid or cone, employed so as to apply a beam or column of energy to whatever is being treated, should be located where the beam will engage it. Under normal circumstances, this will be along the axis of the device. This can be at either extremity of the cone or pyramid or within the structure itself. Complications can arise in connection with this when efforts are made to direct the radiation by either reflecting it, confining it, or having it moved along a conductor.

It seems to be uniformly agreed that whatever is being exposed

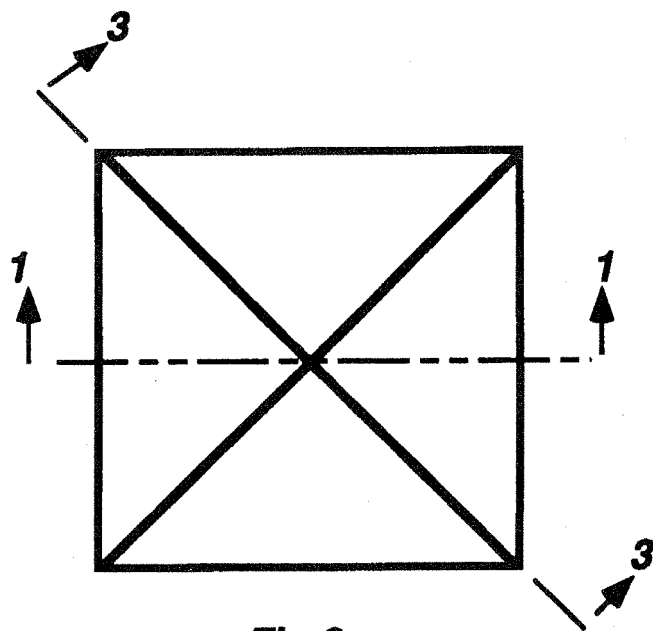


Fig 2

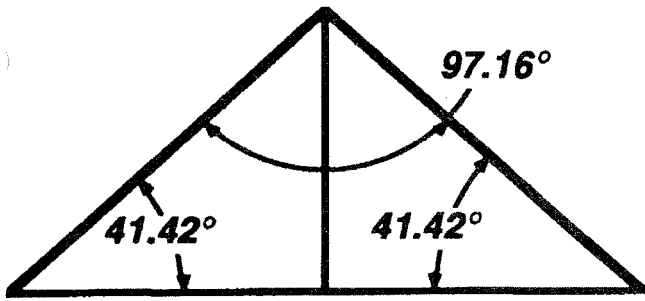


Fig 3

to the collection or accumulation of energy within a pyramid or cone should be located along or reasonably near the axis of the device about a third of the way from the bottom of the structure in order to achieve as much benefit from the energy "processed" within such a structure as is reasonably possible. This view is apparently based on both simple geometry and experience.

Many other devices or structures do the same or nearly the same thing as cones and pyramids. They also operate in about the same manner in which pyramids and cones operate. These include a series of three-dimensional structures of various types, as well as many two-dimensional representations of unmodified pyramids, cones, spirals and other structures. Also included are non-structural symbols and other representations. As a group, the latter demonstrate the concept in magic in which a symbol is a surrogate for whatever it represents.

Some apparently take the view that all things associated with pyramids, cones, and their equivalents are bad because in a sense, all of them involve the unknown, the occult, or other various forms of magic. This is nonsense. All energy-affecting pyramids, cones, and two- and three-dimensional structures (as well as representations which are related to one of them) operate using mechanisms which are "obscure" to currently accepted technology. Fortunately, it is not necessary to understand how all of these things "operate," as they are used in order to produce beneficial results.

A discussion as to the employment of pyramids can be easily extended to a detailed consideration of the historical pyramids in

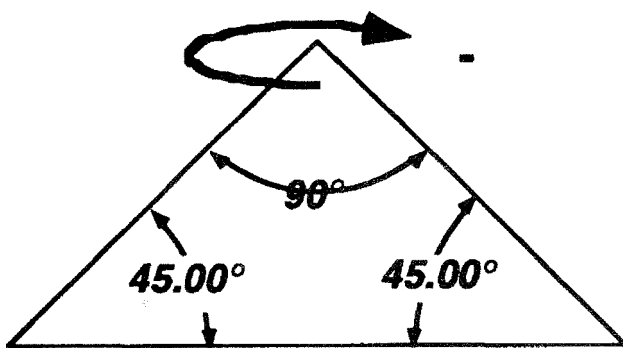


Fig 4

Egypt. There is no point in encumbering this document with a mass of insignificant material relating to these historical marvels. Common belief largely based on this material currently holds that a "modern" four sided pyramid normally is useful only when: (1) it has the relative proportions of the Great Pyramid in Egypt; (2) its axis is vertical; and (3) two of its sides are aligned toward true north. The first of these "requirements" is significant in that it relates the manner in which it is preferable to construct both cones and pyramids.

Stein's text, along with many other materials, indicate that when a four sided pyramid is "properly" proportioned in a traditional manner, the angles between its opposed sides and its bottom are as indicated in the accompanying Fig. 1. This Fig.1 is a side elevational view of a hollow pyramid [designated as Fig. 1.]; Fig. 2 is a top plan view of this same pyramid; and Fig. 3 is a cross sectional view of it taken at line 3-3 of Fig. 1. It is noted that a sectional view taken at line 1-1 in Fig. 2 will correspond to Fig. 1. It will also be apparent that another sectional view appearing as Fig.

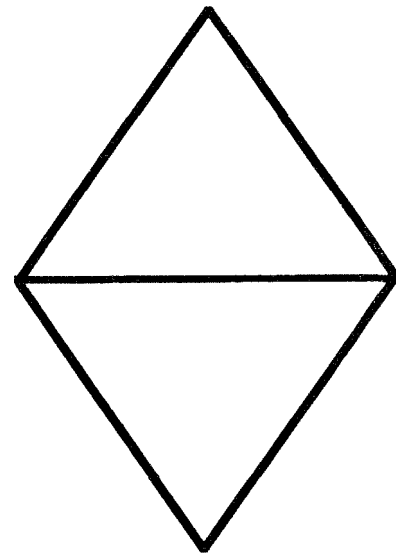


Fig 5

3 could be taken along a line passing through the undesigned diagonal in Fig. 2.

From these views, it will be obvious that in a pyramid proportioned in a classic manner, both the interior and exterior angles between the sides and the side edges as shown in Figs. 1 and 3 are 77.43° and 97.16°, respectively. This results in the angle between the axis of the pyramid and the sides and side edges of the pyramid when a plane is passed through the axis of the pyramid and then rotated varying so as to be both above and below 90°. According to *The Pyramid Guide*, it appears to be important for the internal angle in a plane passing through the axis of the cone to be 90° as shown in Fig. 4. Apparently neither this statement relative to cones nor the beliefs as to the criticality of pyramid proportions is to be taken as incontrovertible gospel.

The sentence "*The Pyramid prototype's dimensions and angle can*

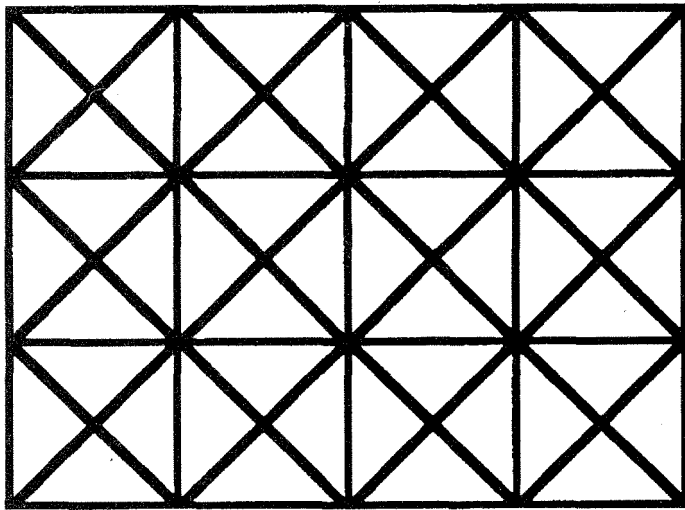


Fig 6

vary substantially and still show positive effects" on page 4 of the September 1972 issue of *The Pyramid Guide* raises a question as to the materiality of the internal angles at the tops of cones and pyramids. The maximum and minimum angles between the edges at the top of a common pyramid are so closely related to the top angle in a cone as to suggest that minor variations in angles at the apex of either type of structure are not materially significant.

Confirmation of this is, to a degree, supplied by a statement on page 37 of *The Cameron Aurameter* indicating that if the top angle in a cone is less than 90°, this results in the energy beam off of the top of the cone dispersing. If the top angle is greater than 90°, then the beam of energy tends to come together adjacent to the cone rather than to extend outwardly as a column having a unitary cross-sectional configuration. These statements are highly suggestive of a flashlight focusing, or adjusting a watering nozzle on a hose.

Because of the relationship between various different pyramid and cone type APEMs, it seems highly probable that the shapes of energy beams from pyramids will also vary. This occurs in accordance with the changes in the angles at the tops of the pyramids in approximately the same manner in which they vary when the internal angle of a pyramid is altered. Since the angles between the sides and side edges and the axis of a pyramid always differ at different locations relative to the axis, on the basis of Cameron's experience with cones, it is expected that tightly coherent columns of energy cannot be obtained from pyramids.

At this time, this does not appear to be important. It is easy to speculate that comparatively minor variation in the angles at the tops of pyramids and cones will not result in geometric changes, which would materially affect the ability of these APEMs to gather or collect energy and to then "process" it. Presently, there is not much information known relative to this issue.

The close relationship between the angles at the tops of cones and pyramids is even more apparent when it is considered that both types of structures can be formed of the same materials and still be operative. In a back-handed way, this is indicated by the

statement "Exhaustive tests made by Verne L. Cameron prove that the Pyramid form can be made from a variety of materials; cardboard, wire, thread, metal, etc., though a cardboard cone is worthless as an energy accumulator (unless covered with a metal foil or a similar material)." This statement appears as part of the discussion containing the previous quotation from *The Pyramid Guide*. The word "accumulator" is clearly used in this quotation in the sense that the word was once commonly used to designate anything which would receive and hold any form of energy. Thus, everyday electric batteries were once commonly described as "accumulators."

In spite of the clarity of this last quotation, it is believed that it should be accepted with caution. Although Mr. Cameron stated that cones could be made of various materials, it seems that he experimented almost exclusively with cones made of common sheet iron, most likely galvanized sheet iron.

There are serious questions which have yet to be answered relative to the nature of the radiation or energy significant in connection with pyramids and cones, and also, how the details of constructing any such device can affect or effect the energy associated with it. Unexpected results are to be anticipated in using different materials, especially uncommon materials, when constructing these devices. In spite of this, there is more than adequate reason to believe that the energies "processed" with both cones and pyramids constructed of the same or similar materials in a reasonably related manner would be essentially the same.

So far, no one has done a decent preliminary investigation as to what the performances of cones and pyramids will be if they are constructed of materials such as iron, lead, metal or ceramic magnets, or other more "exotic" materials such as mu metal. Only one frustratingly incomplete reference has been located. This reference discusses making the walls of an energy-affecting pyramid with alternating layers of metal and non-metal, such as the one used by Dr. Reich in his well-known orgone accumulator. There is a high probability that an energy-affecting cone or pyramid can be built so as to more or less act as such an accumulator.

There is an isolated report of an enclosed copper lined,

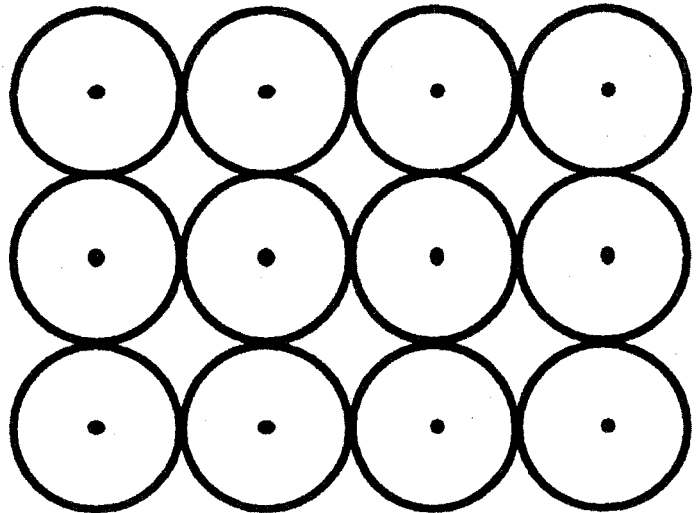


Fig 7

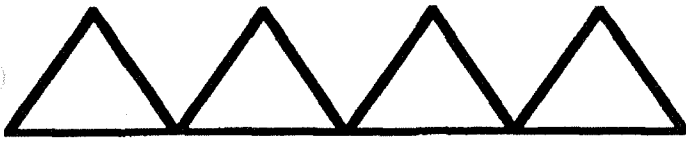


Fig 8

nonmetallic pyramid which is large enough to hold a prone human body which illustrates this point. This structure has been indicated to be so "active" when lined with copper that no one can sleep within it. Unfortunately, the report on this device did not clarify what was meant by "active." We are to presume the term was used to indicate that the energy present within the pyramid had an effect on the mental process of the person within it and was not intended to directly describe any energy associated with the pyramid. Reasonably clear evidence of this type strongly tends to confirm the existence of a relationship between Dr. Reich's orgone devices and pyramids and cones.

Unfortunately, one has to speculate as to the full meaning of the previous quotation from *The Pyramid Guide* relating to the materials which may be used in constructing cones and pyramids. By indicating that a pyramid form can be constructed from wire, the author of this quotation indulged in the frustrating precise indefiniteness often found in patents. Was this an intended reference to a frame outlining the edges of a pyramid or was it a reference to a pyramid in which at least the sides were formed of wire, such as that found in a wire fence?

Either meaning is possible. Useful energy affecting and effecting pyramids have been constructed of materials containing relatively small perforations, panels containing access holes, and structural parts, so as to consist entirely of a self-supporting framework outlining the shape of a pyramid. Such frames seem to be essentially symbolic in nature in view of their limited tangible physical structures.

Because of its shape, a frame cannot accurately portray a cone in the manner that a pyramid can be delineated by a framework. No one has yet discussed forming cones with holes allowing access to materials within their interiors. This is most likely because a comparatively large hole in the wall of a cone would inherently interfere with the curved exterior which characterizes any cone in the area where the cone is located. It is considered that relatively small perforations in the surface of a cone are not considered to have this effect.

Pyramids and cones are employed both with and without their bottoms being deliberately covered or closed off by a supporting surface. Although little has been written on this topic, there is one report indicating that the energy given off by a cone with a closed bottom was about equal to that given off by three cones having open bottoms. This report is so deficient in detail that one hesitates to draw any conclusions from it.

The answer as to whether it is or isn't advisable to close off the bottom of a pyramid or cone in a specific manner is probably best related to the intended use of the structure. One can anticipate

different results depending upon whether the energy associated with these devices is to be used internally or externally and whether or not they are to be used when connected in series or parallel.

There are usually no material problems in connection with the use of the energies associated with pyramids or cones. As previously mentioned, there are only two significant manners in which these structures are commonly employed. In one manner of use, the intended recipient of the radiation can merely be placed in the columnar energy passing along the axis of a cone or pyramid. Although this energy is usually only thought of as being emitted from the apex of a pyramid or cone, there is good reason to conclude that at least a variation of it also extends through this type of structure and out of its bottom. Unfortunately, nothing has been found which adequately clarifies the accuracy of this last statement.

In the second common manner of use, whatever is treated with one of these devices is supported in or passed through a central region in the interior of a pyramid or cone in a convenient manner. As previously noted, it is usually considered that the central portion of a cone or pyramid is along the structure's axis about 1/3 of the distance upward from the bottom of the structure.

The results achieved with both pyramids and cones are primarily related to the specific ambient energy or energies normally contacting with these devices at any time, and also to the manners in which any and all such energies move relative to them. Both of these matters presently involve more speculation than fact. Various individuals believe that their views on both of these points are grounded in unchangeable fact. Any position of this type is in error.

The variations in discussions of antidotal experiences with APEMs make it clear that the nature of any energy associated with a cone or pyramid, and how such energy moves in either of these

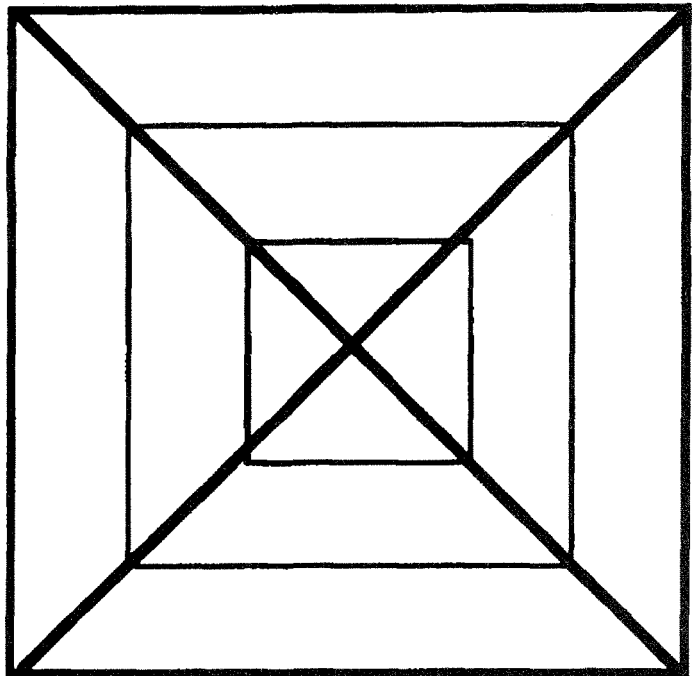


Fig 9

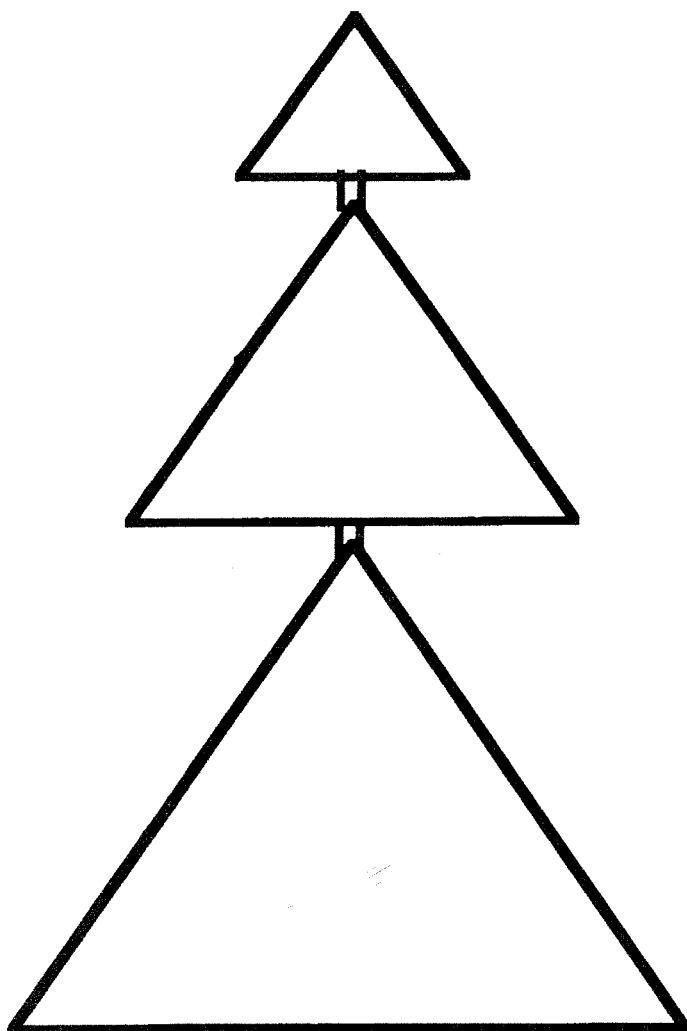


Fig 10

devices, is debatable. The quantity of such energy associated with these structures unquestionably varies in accordance with ambient conditions.

With any cone, at least one form of ambient energy is attracted to and flows along the smooth surface of the cone more or less as a stream of water is guided by a smooth surface. This moving energy seems to spiral around the surface toward the apex of the cone where the energy tends to coalesce as it passes from the apex. Although it is usually considered that this energy is in the form of a beam or shaft of energy going outward from the cone's apex along its axis, this is only in the case with a 90° cone. Earlier, it was indicated that with other conical structures, the energy flow differs to a minor degree from the apex of a traditional right angle cone. For practical purposes, the energy emitted from non-90° cones can be classified as being in the form of a beam or column even though, from a technical standpoint, this is not exactly the case.

Within any such energy beam stream, the energy is reported as twisting in the direction as shown by the arrow in Fig. 4. As

previously indicated, some suggest that this beam also extends through and out the bottom of a cone. A person cannot help but speculate that whether or not the energy twists in a clockwise or counterclockwise direction (as viewed from its top) is a function that could be due to one of a multitude of factors. These factors include such diverse items as whether the cone is in the northern or southern hemisphere, the details of the earth's magnetic field at the location where the cone is located, ambient electromagnetic fields, and the like.

Mr. Cameron apparently located a cylinder of energy around a beam coming from a cone, the beam spaced slightly more than a foot from the tip of the cone. This isolated disclosure is rather interesting in that it suggests that the air around a beam coming from a cone may act more or less as a dielectric separating the beam from an induced collection of energy. In a crude sense, this can be compared with the operation of a conventional capacitor.

In most regards, there is a dearth of reliable information relative to the movement of energy affected by a pyramids. The limited knowledge relative to the collection and movement of energy in connection with this type of APEM is that the energy passing from a pyramid spirals off of the top of the structure. The energy then becomes a gradually diverging beam which twists in the opposite direction away from the energy passing from the cone. No one seems to have an explanation for this.

Because of the close similarity between pyramids and cones, it is believed that the energy movements relative to, and within each, should be thought of as being governed by the same considerations. As a consequence of the variation in the internal angles between the sides and side edges of a pyramid around its apex, it would be inappropriate to consider that they are identical as far as energy flow is concerned. One can safely assume that such

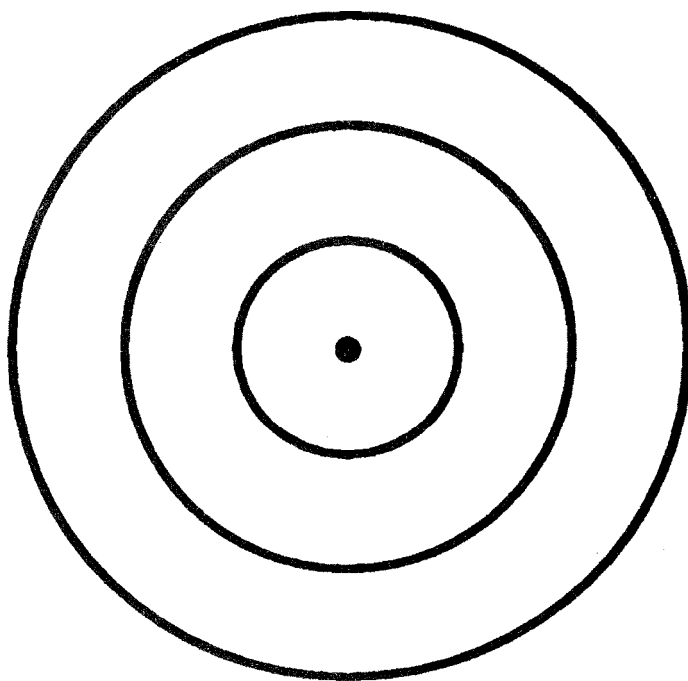


Fig 11

differences that exist between the energy movements in these different structures are essentially differences in degree and not in kind.

The existence of the spiraling columns or beams of energy from the tips of both pyramids and cones is seemingly confined by reports of locating two pyramids so that their axes are vertical and aligned and so that the bottom pyramid is inverted from its normal position and located with its base matched up against the base of the top pyramid as indicated in Fig. 5. Not surprisingly, when they are located, the beams from both are described as canceling each other out. Since the energy beams from pyramids are reported to "react" in this manner, it is logical to assume that the related beams from cones would off-set each other in the same manner.

Although little is known relative to the movement of energy collected and "processed" by cones and pyramids, it is interesting to note that a procedure has been developed for controlling the spiraling of a beam off of the end of a single pyramid or cone. A composite structure for this purpose can consist of a small, centrally located beam source and a series of other cones or pyramids located in a path around this beam source at gradually increasing distances from the central structure, which defines at least a part of a spiral. If all of these cones or pyramids are pointed in the same direction, a composite spiraling beam will be produced.

Contrary to common belief, there appears to be nothing overtly critical about a pyramid or a cone being located in a vertical position. There are a limited number of references clearly disclosing successful uses of these devices in other positions. Such disclosures directly contradict the mystical aura based on the Egyptian pyramids being aligned with the Earth's magnetic field. This mystique has infected the entire field of pyramids and cones. Unfortunately, these recent disclosures have not been strong enough to destroy this aura. Many in the field of borderland technology or tomorrow's science find that it is easy to forget that customs and traditional beliefs should not be automatically accepted as correct, but should be thoroughly investigated to see if they have been founded on experience.

The issue of whether cones and pyramids can be oriented forms a part of the more basic question as to the precise nature of the energy or energies "processed" using both pyramids and cones. There seems to be a limited degree of consensus on this point. In speaking of the energy given off by cones, Mr. Cameron described

this energy as an electricity having an "exceedingly short wave length" and indicates that "I'm fairly certain this energy operates in the gap of unknown rays just above x-ray" (p. 3, Nov. 1972 Issue *The Pyramid Guide*).

There is no reason why these statements cannot be applied as equally to pyramids as they have been to cones. Most of those who have seriously considered the nature of the energies associated with pyramids and cones take the position that the energies or forces used with both are, or are in the nature of, extremely high frequency microwaves. No one seems to question that they are of an electromagnetic character or that they are of such restricted magnitude that in order to properly refer to them, one must use the term "subtle energy".

Unfortunately, no one seems to have thoroughly considered the possibility that the energies associated with cones and pyramids are probably not uniform and that they most likely consist of radiation either falling within more than one restricted range or "band" of frequencies extending over a comparatively large band. As previously noted, it is logical to expect significant variation depending on the material or materials used in forming pyramids and cones and whether or not they are perforated.

The preceding conclusions are supported by the fact that in many ways, the energies associated with pyramids and cones act more or less like commonly known microwaves. Several points are worth noting: that they are often compared with light, that they can pass through most common materials, that they can be reflected, and that they will follow the surfaces of common wires and cords when concentrated into a beam or column.

This last statement is especially

apparent when these energy conveying members are formed of an electrically conducting material.

As with so-called "Eeman screens," these energies from pyramids, cones, and other APEMs are capable of being conveyed by or along both organic and metallic lines attached to one of their surfaces. The disclosures about the precise methods of attaching these conductors (which have been located in preparation of this article) leave much to be desired. It seems that any method of attachment which reasonably resembles a traditional electrical connection can be satisfactorily used.

Since the apex of a cone or pyramid is a point, it is impossible from a practical point of view to connect a conductor so that it only

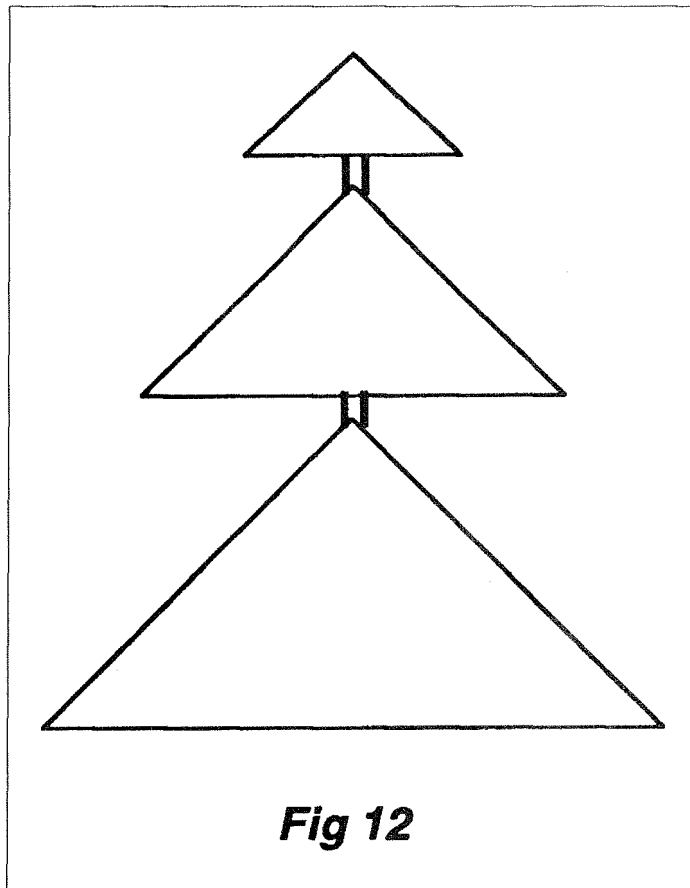


Fig 12

conveys that energy which is normally considered to be given off at the pointed top of such a structure. There seems to be no question except for the fact that when a conductor is attached to the exterior of an APEM immediately adjacent to its apex, it performs satisfactorily when it is not connected to or in contact with the interior of the structure. Since in the usual circumstance, the conductor, used with a cone or pyramid, can be formed of a useful material, something which has not previously been considered must be involved in connection with the operation of both APEMs and conductors useful with them.

This dual utility of various materials rather clearly suggests that the operation of a cone or pyramid involves both the movement and accumulation of energy along the surfaces of the structure and the radiation of this energy from these surfaces. A corollary of this is that this energy does not normally move around the rather sharp edges found on pyramids and cones having open bottoms.

Any questions regarding this last conclusion can be resolved by considering that if the energy associated with such a device did move around such delineations, that in effect, the energy would "short out" and tend to be the same on both the interior and exterior of a cone or pyramid.

Because of this, it is safe to conclude that the energy discharge usually associated with a pyramid or cone is probably concentrated around but not exactly at the tip of the structure, and that this energy falls off around the tip rapidly in accordance with the distance from the tip. This decrease in energy emission in accordance with the distance from an apex is also in accordance with some sort of an inverse square relationship.

This explains the usability of all sorts of connections of conductors in close proximity to the tips of cones and pyramids. It is likely

that there is some energy loss at any such connection which can be minimized by hat-like terminal elements on connectors which fit very closely against the tip and the adjacent surface of any pyramid and cone. Such terminals can be provided with conventional attachment means for use in securing them to an appropriate conductor. They can also be shaped so as to "nest" against another similar terminal in connecting two or more APEMs in series as subsequently discussed.

From the fact that different "feelings" are achieved with different kinds of conductors in Eeman-type devices, it seems clear that conductors of different materials must convey different "fractions" or aspects of a composite collection of energy emitted by a pyramid or cone. Unfortunately, little has been published relative to the "selectivity" of different common metallic and organic conductors used with these APEMs.

In a generalized and vague manner, this view as to the composite character of the radiation associated with APEMs is supported by the nearly concurrent recognition of different components in magnetic fields. With one exception, an extension of this previous sentence is beyond the intended scope of this article. This exception primarily pertains to the use of APEMs in urban environments. Pyramids and cones are often believed not to operate in a "proper" manner in the presence of the larger electromagnetic fields associated with an electrically oriented society.

The existing evidence indicates that, without a doubt, the energy or those energies which are significant with cones and pyramids must be substantially similar to one or more previously recognized and named energies. To be even moderately complete this discussion pertaining to the nature of the energy associated with the operation of cones and pyramids should include a discussion which relates them to energies of various different names, names which are associated with different creative individuals who have been involved with future science. There are far too many names for them all to be discussed in detail in this article. Several previously recognized energies are significant enough to be mentioned in this article.

Orgone energy as identified by Dr. Reich has been previously mentioned. The disclosure by Dr. Heironymus concerning how energy can be carried by conductors between flat plates to grow plants in darkness is considered to be particularly applicable to this discussion of cones and pyramids (*Journal of Borderland Research*, Sept-Oct. 1990, p. 22). To some, the work of Dr. Heironymus will suggest that any surface, including that of a flat plate, will to a degree simulate the ability of a pyramid or cone to gather or accumulate energy. In addition, isn't it obvious that metallic—especially copper—pyramids or cones can be substituted for the flat plates used by Dr. Heironymus?

No one should be surprised that both pyramids and cones have been used along side of one another more or less in parallel in the manner indicated in the top plan views identified as Figs. 6

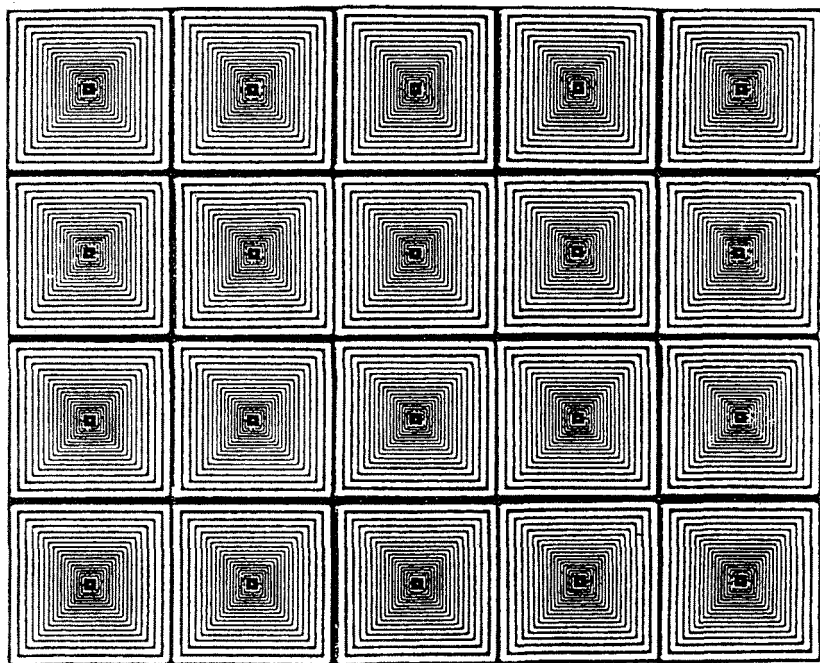


Fig 13

and 7, respectively. Fig. 8 can be taken as is a side elevational view of the structure shown in either Fig. 6 or 7. Composites of the types shown in Figs. 6 and 7 are often constructed so as to be sufficiently small as to be capable of supporting items such as a pan or tray. The rows of cones shown in Fig. 7 can be offset so that the individual cones are more closely fitted together than shown in Fig. 7. Alternately, in the Fig. 7 structure small cones or pyramids can be fitted in the spaces between the cones illustrated.

It is important to note that energy affecting cones and pyramids have also been used with their axes in alignment in such a manner that they can be considered to be positioned in series with one another. This is illustrated by Figs. 9 and 10; they are the top plan and side elevational views, respectively, in a series of pyramids located one above another with their axes in vertical alignment. Figs. 11 and 12 are corresponding views of a series of cones similarly located so as to be vertically aligned with one another.

Cones and pyramids located as shown in Figs 9 to 12 are normally, but not always, used by having the exterior of the tip of one APEM connected as shown by a rod, electric conductor, or the like to the exterior of the next adjacent unit. In any such a series, care must be taken when arranging it, so as to avoid "shorting out" an APEM by connecting its opposed surfaces with a conductor. This theory, or a related series assembly theory, is that the total energy given off by the top or tip end of the composite device will be greater than can be achieved by either a single pyramid or a cone. Because

of a lack of a good objective method of measuring the top emanations from both, one cannot be certain that this is correct.

No discussion of "basic" energy-affecting pyramids and cones can be considered complete unless it is broadened to include the principally known manner in which these devices can be modified, changed, or represented without losing their ability to "operate." Equally necessary in the discussion is including easily overlooked relationships between these devices and some prior related structures. The significant variants and known "relatives" of simple cone and pyramid structures as described are, in many respects, more interesting that the basic structures themselves. They are of two distinct types: (1) tangible or physical structures; and (2) symbolic devices. It is not necessary to be a genius in order to associate traditional magic with the purely symbolic aspects of both types of structures and devices indicated.

A minor degree of semantic confusion or overlap occurs in

association with these designations. To exist, a symbolic device has to have a degree of form or substance and as a result, inherently has to possess a physical character. Conversely, a traditional type of tangible or physical structure cannot avoid including whatever symbolism may be associated with its construction.

For the purposes of this discussion, it is assumed that the physical character of an essentially symbolic device is so small that it can be justifiably neglected. At the same time, magic associated with the symbolism of a conventional type of physical structure is so small that it can also be justifiably overlooked, as well. Even if this type of distinction is incorrect, in an abstract sense it seems necessary to recognize the realities of the world.

With all of the tangible or physical variants of pyramids and cones, there are two underlying issues: 1) does a particular device have to have at least a minor superficial resemblance to a structure which could be recognized as a pyramid or cone on the basis of the preceding discussion and 2) does it appear to do more or less the

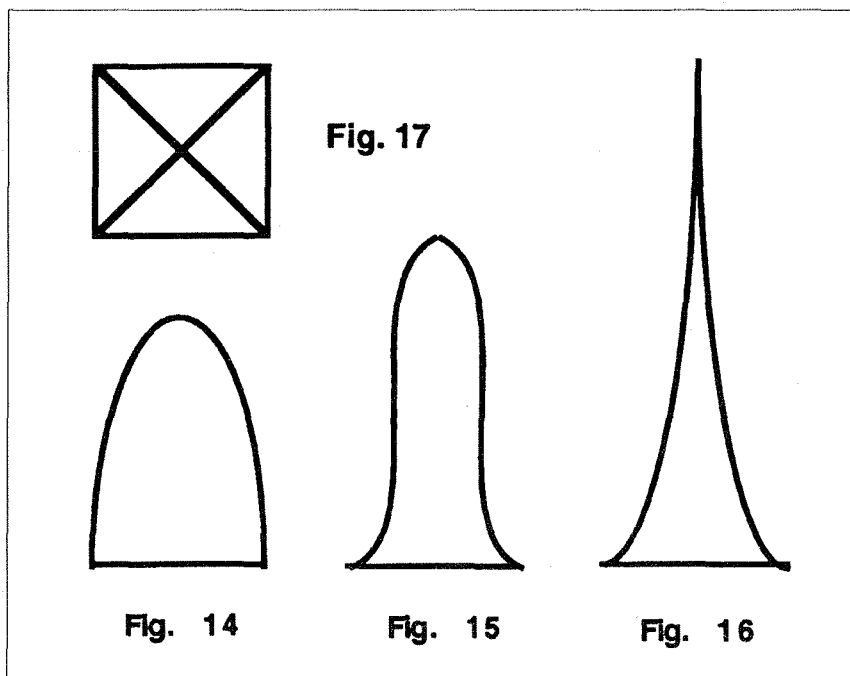
same thing as such a prior device in about the same way that the prior device is believed to operate? If the answers to these are yes, then the particular device can be considered to be an "equivalent" of an established cone or pyramid. No such equivalent need produce exactly the same result as any other related cone or pyramid.

Since traditional equivalents are tangible in character, no one seems to question their inclusion in a discussion of pyramids and cones. With just a few exceptions, prior considerations of these de-

vices or their equivalents have neglected to associate the physical structures with their corresponding symbolic representations. All of these exceptions have related to associating pyramids and their representations.

Fig. 13 is reasonably typical of the prior limited uses of symbolic pyramids. It was published on page 15 of the Nov.-Dec. 1986 issue of this periodical when it was previously known as *The Journal of Borderland Research*. When published, it was accompanied by a brief discussion indicating that it had approximately the same utility as a series of pyramids — presumably pyramids corresponding to the historical ones in Egypt. Such statements are enough to establish it as an "equivalent" of a traditional pyramid in the occult field.

Fig.13 only indicates one manner in which a series of pyramids can be symbolized. Both Fig.13 and Fig. 6 separately illustrate the top plan views of a series of identical pyramids located in a "tight"



rectangular pattern. In Fig. 6, the pyramids are shown in the traditional manner of mechanical drawings. It clearly shows their side edges and indicates their tips. As opposed to this, in Fig. 13, the sides of the pyramids are represented in a manner alien to normal technical drawings by a series of parallel squares of gradually decreasing line weight terminating in what appear to be top openings. The existence of side edges is not directly shown in the Fig. 13 but instead is implied because the corners of the squares are aligned. It is important to note this.

Without other illustration or explanation, neither Fig. 6 or Fig. 13 accurately portray a pyramid having the traditional proportions of the Great Pyramid in Egypt. Neither of these figures give any clue as to the what the pyramids they portray truly look like from the side. In both Figs. 6 and 13, the sides of the pyramids could have an infinite number of different configurations without disturbing the accuracy of these figures.

This point is easily shown by Figs. 14, 15, and 16, which illustrate three possible (but highly unlikely) side configurations of a pyramid representing any pyramid in Fig. 6. Any of these side configurations can be indicated by a series of parallel squares (as shown in Fig. 13) as a pyramid having the classical proportions of the Egyptian pyramids. The indefiniteness of Figs. 6 and 13 is further confirmed by the fact that either figure could represent a series of aligned, "stacked" pyramids of the same external base dimensions, or it can represent a similar series in which the top pyramid is larger at its base than any of the other pyramids in the stack.

The confusing manner in which pyramids are illustrated in Fig. 13 is especially interesting in connection with a "stack" of pyramids of gradually diminishing size as indicated in Figs. 9 and 10. According to conventional drafting standards, each enlarged square normally used to designate a single pyramid shown in Fig. 13 can also designate a series of stacked or even nested pyramids such as the series shown in Figs. 10 or 12. It can also be used to indicate a series of other pyramids having straight, concave, or convex sides of any desired height. Any such series can consist of either symbolic or actual pyramids.

Since experience has established that a form of energy is given off from an illustration, such as Fig. 13, or from a corresponding illustration of a single pyramid, one can argue that all of the unlimited number of symbolic and actual structures capable of being portrayed by Fig. 13 are to be assumed to be approximate equivalents of a classical pyramid. Further, since experience has established that the symbolic Fig. 13 does not have to be oriented with respect to the earth's magnetic field to give off an energy, logically it appears that it is unnecessary for any related physical or symbolic structure to be so located in order to be effective.

Much of the preceding discussion can be repeated almost verbatim in connection with cones. The top plan view of a single cone (such as one of those shown in Fig. 7) can legitimately be understood as designating a right circular cone of any height or any other cone with either a bowed out, convex, inwardly extending, or concave periphery. It can also be taken as designating a series of cones of the same diameter or a series in which the diameters of the cones decrease from the top down. Any portrayal of a series of aligned cones consisting of concentric circles (corresponding to Fig. 11) can designate either cones which are all of this type, or a

collection of cones which have different shapes. It can also merely indicate a single cone of any of the varieties with parallel bands or stripes located on its periphery.

Some will think that these comments relative to Figs. 6 and 13 to 16 have been phrased so as to deliberately confuse the relationships between symbolic and real pyramids and cones. Much of this confusion could be eliminated by the use of the traditional "Patent Office" shading. One result of the use of computerized drafting and lack of people trained in traditional shading techniques is that this confusion will remain an established reality.

The structural relationship between pyramids and cones is much closer than the indefiniteness of conventional drafting would suggest. Although side views of both can appear to be the same, the top and bottom views of cones and pyramids can never be interchanged. Yet from the standpoint of conventional mathematics, a cone can be regarded as a pyramid with an infinite number of sides.

Fig. 18 illustrates this point. It shows the top plan view of a series of pyramids with a gradually increasing number of sides. The sides of the last pyramid in this series are so small at their bottoms that it is obvious this particular pyramid can be considered a cone. This series alone provides an adequate basis for arguing that both cones and pyramids are merely species of some presently unrecognized genus. This is particularly true when full credence is given to Mr. Cameron's statement which refers to the unnecessary focus on the preciseness of the construction at the top of a pyramid.

His statement about minor changes in construction not being critical to the use of cones and pyramids as APEMs effectively indicates and confirms that there can be many approximately equivalent energy-affecting cones and pyramids. These can have different relative proportions or, in the case of pyramids, differing numbers of sides. There is also a wide variety of other less popular constructions that are also rough equivalents of the pyramids and cones previously used as APEMs.

The Pyramid Guide publication previously mentioned contains a few interesting disclosures that tangible structures which indicate shapes corresponding to cones need not look like cones in order to be operative in the same manner in which cones are employed. The principal disclosures on this concern paraboloids. These surfaces of revolution fall within the list of shapes which can be illustrated in accordance with standard drawing practice by a top plan view showing a circle. There seems to be no question, only that these paraboloids and other surfaces of revolution reflect any energies that are associated with pyramids and cones in about the same way in which a normal parabolic mirror will reflect light.

The statement in the preceding paragraph, in which shapes corresponding to cones need not look like cones in order to be the equivalents of cones, may be the basis of a common practice in symbolic magic concerning circles. In traditional settings, circles are often used to protect who or whatever is inside the circle from what is outside of the circle, be it real or imaginary.

Is it possible that in addition, one or more circles have been employed in the procedures of magic to invoke the energy or energies associated with symbolic circles or physical structures shaped as pyramids? Does this logic extend even to the use of circular churches and other types of temples? Is there a corre-

sponding history and meaning relating to the use of symbolic square design configurations, or of pyramids themselves?

Support for the proposition that a structure need not look particularly like a cone or pyramid in order to function as either of these is also found in *The Pyramid Guide*. On page 6 of the Nov./Dec. 1974 issue, there is a minimal illustration of what is described as a "chain of nine beechwood hemispheres" located on the same shaft and oriented with their domed surfaces in a northerly direction and their flat bottoms facing south.

The brief write-up on this device in *The Pyramid Guide* indicates that the entire structure should be formed from the same member. It also discloses that the device is shown in an incompletely identified German patent issued in 1936. Only one thing clearly indicates the relationship between common pyramids and cones and this patented composite — the fact that it is disclosed as mummifying fish. In the illustration showing the German device, the fish is pictured as being located along the axis of the entire structure adjacent to the exposed flat bottom of an end hemisphere.

Since the "modern" history of pyramids is often traced to both the mummification of stray animals in the Great Pyramid of Egypt and the preservation of items such as meat in structures having the shape of a pyramid, it seems impossible to avoid associating the hemispheres of this German patent with energy-significant pyramids and cones. From this, it seems clear that such hemispheres are approximate equivalents of both pyramids and cones.

Confirmation of this conclusion is found in a reproduction of part of Mr. Cameron's records concerning his use of a downwardly directed hemispherical copper electric heater reflector, which was reproduced on an unnumbered page used for mailing purposes in the September - October 1973 issue of *The Pyramid Guide*. He observed that when this reflector was positioned above a cone, it reflected the cone's energy beam back toward the cone, and that the reflected energy flowed "back of the cone like a stream of water." Perhaps this means that the reflected energy went through the cone. In all probability, it means that the reflected energy was

directed downwardly in a conical path by the surface of the cone.

In another issue of *The Pyramid Guide* (the March-April 1974 issue), questionable additional confirmation of this conclusion concerning hemispheres being in the nature of energy-affecting pyramids and cones is found. The unnumbered cover sheet of this issue tells of a battery-powered pencil sharpener that had a top shaped as a hemisphere. In this pencil sharpener, the batteries were alleged not to have run down during approximately a 4 or 5 year period. These statements imply that the cover somehow provided a form of energy which managed to keep the batteries used charged. Such a claim may be true, but before it is accepted it should be verified.

This information concerning downwardly directed hemispheres, either alone or in an aligned series, is interesting in that it raises several related, but seemingly unanswerable questions. They all relate to the use of hemispherical and related domes in many buildings and in particular, historic buildings. Are these and other classical structures "active" in affecting subtle ambient energy? This dome type of construction may have been employed in classic buildings such as the Pantheon, because it is attractive, it is possible that it may additionally have been used because of its energy controlling or affecting properties.

We know from the famous acoustics of their amphitheaters that the ancient Greeks and Romans were quite efficient in dealing with the minute energy found in speech. Is it possible that they or others may have recognized a utility, which has now been lost to history, of a dome shape in connection with other subtle energies? If so, this configuration has been emulated throughout history because of its inherent attractiveness, while the complete significance of a dome shape has been lost.

The unknowns that are relative to domes are of the same character as both pyramids and cones. If the latter can be symbolically portrayed, it is only reasonable that the former can also be symbolically represented. It is all too easy to overlook an aspect of such symbolism which was not clearly emphasized in the

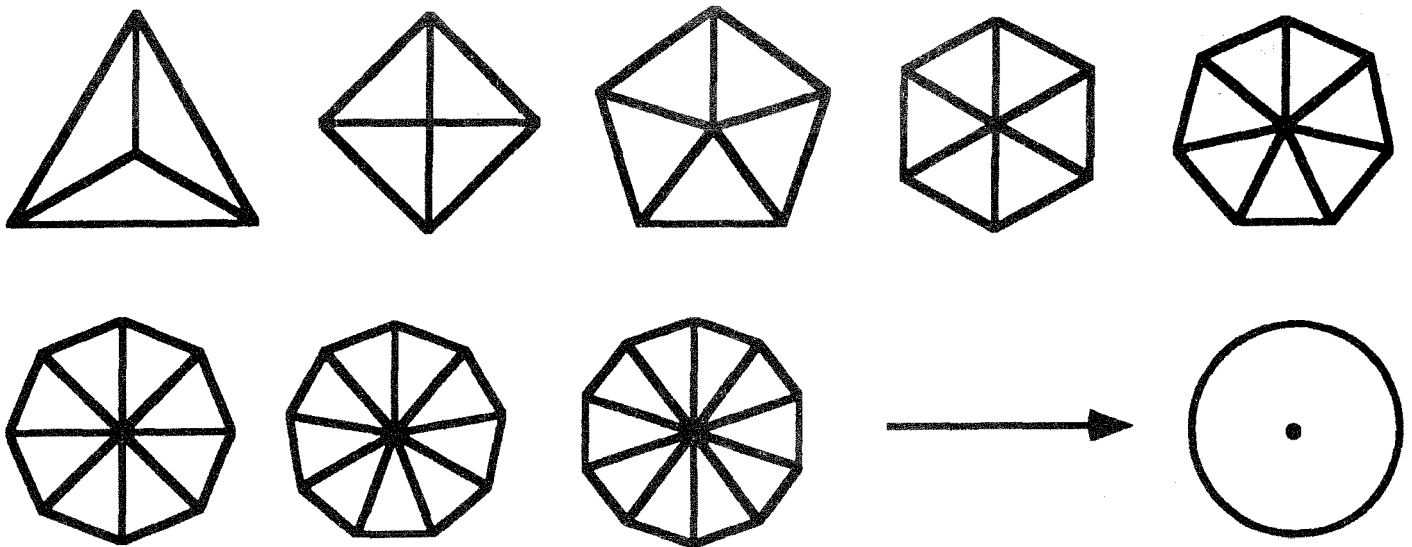


Fig. 18

preceding discussion. Two types of symbolic representations are significant in connection with APEMs: (1) those pertaining to only the outline of a structure or device and (2) those pertaining to surface character. The latter is usually connected with the spaces between the outlines of a structure, not to the fundamental character of the device itself.

Much is still unknown on these topics. No one knows the number of present customs and practices that may be based on ancient recognition of the desirability of concentrating the energy or energies associated with pyramids and cones in various particular circumstances. Only little mental activity is required to extend the philosophy of the preceding discussion relative to actual and symbolic APEMs into a consideration of traditional practices for which there is little believable explanation. Several customary aspects of society illustrate this point.

It is easy to speculate that the conical hats traditionally associated with the practice of magic were originally worn so as to affect the energy levels within the heads of those who wore them. This is not too far-fetched, in view of the fact that beneficial results have been currently attributed to wearing hats shaped as pyramids. Of course, this type of speculation becomes even more interesting when it is considered that traditional dunce caps, as well as many hats worn by laborers were conical in shape.

To most people, it will initially appear that the use of conical hats is unrelated to cones serving as APEMs because these hats do not have the shape of 90° cones. This view can be discarded because, as indicated earlier, the angle at the apex of a cone affects the columnar nature of the energy associated with operation of the cone. There seems to be good reason to speculate that a colinear column of energy from the tip of a 90° cone may be detrimental to a person's brain, while less concentrated energy (as is apparently obtained from cones having significantly larger or smaller cone angles) may be beneficial.

An obelisk is an equally interesting topic for speculation. Although much has been written about them, no one really knows why they were originally created in the traditional shape of a pyramid on top of an elongated rectangular integral support. It is to be anticipated that when an objective method of measuring the subtle energies associated with pyramids and cones is achieved, we will learn that the supports in obelisks are essentially wave guides for the energies "processed" in the pyramids formed on them.

Chinese pagodas are other structures which appear to be related to energy-affecting cones and pyramids. They quite clearly have a superficial resemblance to an aligned stack of pyramids or cones as shown in Figs. 10 and 12. Western Civilization seems to have no clear idea as to why the Chinese adopted this type of construction for just a few distinctive buildings that do not seem to be a part of their current religious system or systems. It would appear that they were often erected at points such as where ley lines intersect and that they were often used for the storage of valuable items such as venerated documents.

From what little is known relative to pyramids and cones, it seems clear that they were used for such purposes, since the roofs in such buildings act more or less like a series of pyramids so as to apply preserving energy to whatever was placed within them and, presumably, to the curators of these structures. While it is illogical to expect that any APEM will preserve such things as beliefs, it is

clear that any such structure can be expected to aid in the preservation of paper or the like which might carry a meaningful writing or illustration. One can compare this with current uses of pyramids to preserve all sorts of organic materials.

Towers that have spirals extending around their exteriors are, on occasion, considered rough equivalents of pagodas. It is interesting that such beliefs are supported by a combination of actual devices and symbolism. In his early works developing energy-affecting cones, Mr. Cameron lent support to the idea that spirals might be related to cones and pyramids. This seems to be a by-product of his attempts to develop an electrical or electronic structure capable of being used to detect and measure the energy he experienced in his work as a dowser. There seems to be no record of any of this work, except a few disclosures indicating that he attempted to use flat, helical coils for this purpose. The coils he used in his experiments can be directly compared to those used in early medical practice. That work was unsuccessful. In seeking more satisfactory results than he had achieved, he was influenced to develop the use of cones, most likely from observing what must have been conical, spiral antenna-like structures which were then used by chiropractors.

Sadly, we have no further detail as to the spiral structures which influenced him. No record or knowledge of their use in the chiropractic field has been located in the preparation of this document. Almost everyone familiar with the field of radionics is aware of the early use of spiral antennas to radiate power supplied by an external circuit. Since the cones developed by Mr. Cameron only operate on the basis of ambient energy, it is logical to expect that he somehow noticed an energy associated with an unconnected coil. This in turn stimulated his thinking in some unknown manner which resulted in his producing energy-affecting cones.

Mr. Cameron's probable steps between an unknown chiropractor's coil and a cone are an interesting topic for speculation. At the time, he must have known about consistent reports of energy beams associated with and extending along the axis of either helical or cylindrically wound coils which were not connected into any sort of a circuit. It follows that he then built his knowledge of cones and pyramid energies on the basis of this knowledge. It is interesting to note that such beams are now commonly encountered in symbolic magic in association with two dimensional representations of spiral coils made using inks which are not normally considered as conductors.

The fact that Mr. Cameron derived cones from coils makes it seem desirable to expand present thinking relative to ambient energy-affecting pyramids and cones. They should be concurrently considered in connection with both naturally powered flat and cylindrical coils. The thinking on this topic should also consider a series of maze configurations and the shapes of a variety of antennas, which all provide or seem to provide a beam of concentrated energy from the ambient. While all of such items may not be exact equivalents of one another, there is adequate reason to believe that they perform approximately the same function in roughly the same manner.

A significant clue to the verification of this last statement (and as to the possibility of the development of a simple, effective apparatus for making objective measurements relative to the energies associated with all APEMs) is found in a seldom refer-

enced aspect of Mr. Cameron's experimentation reported on pages 38 and 39 of The Cameron Aurameter publication. Because of references to an aluminum headband in the discussion on page 38 of this text, a lack of a clear correspondence between this discussion, and a sketch on the following page 39, an essentially minor degree of guess work is required to understand his experimentation.

The crucial aspect of it lies in his discovery that the energy beam from a horizontally disposed cone — presumably a galvanized sheet metal cone — when directed toward the center of a helical coil serving as an antenna for a regenerative radio set, could be amplified so as to produce "noise" capable of being varied by blocking and unblocking the beam of energy from the cone. He also used a second cone instead of coil by connecting it so that the apex of the second cone was secured to the radio, which served as the antenna for the radio. He then located the second cone so that it had an open bottom which faced the first cone.

It is surprising that no one seems to have followed up this work of Mr. Cameron or even to have substituted a pyramid for a cone in an experiment as described. This is a shame. With the acceptability of APEMs in traditional technology seemingly contingent on the development of objective measurements of the energies associated with pyramids and cones, it seems clear that it is only a matter of time and effort until it is possible to obtain meter readings giving relative strengths of the energy beams obtained from APEMs.

It also seems a shame that little work has been reported relative to the use of two or more pyramids or cones which have been directed toward one another or toward other devices or structures

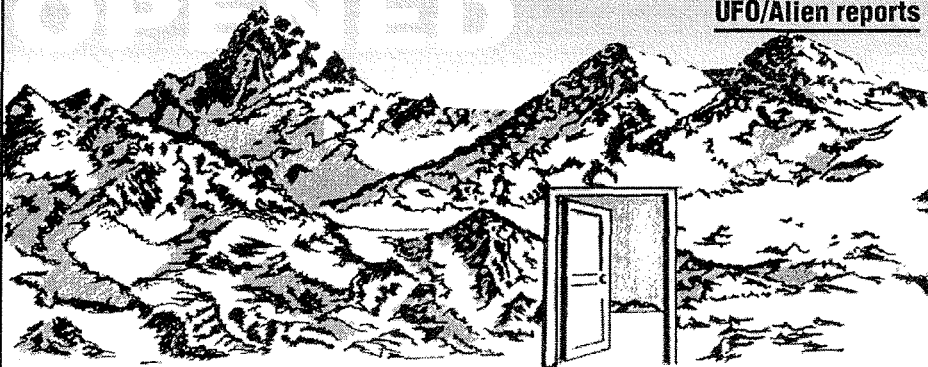
or which are known to be APEMs. These composite structures, as have been reported, tend to be in the same category as two mirrors or antennas used so as to, in theory, reflect energy back and forth for an indefinite period.

The simplest of these structures are cones and pyramids of the same dimension located in base to base relationship. There are variations of this based upon the use of parabolic reflectors which face one another. No reason is seen why elliptical "half shells" could not be used in a similar manner. From such simple geometric structures, it is possible to derive all manner of enclosed composites of one or more types of APEMs.

At this point in time, it is thought that it will be premature to become lost in an endless investigation of such composite APEM devices when knowledge with respect to simple APEMs is so limited. No one can dispute the potential interest in these composites, particularly in applying intense energy to any thing or life form placed between two or more APEMs. This is particularly intriguing in connection with the transfer of energy from one source at the focus of one elliptical half shell to an intended recipient at the focus of the other. This is related to the use of a parabolic APEM to concentrate energy at its focus. Do such "set ups" have the potential of facilitating the development of such phenomena as telepathy?

Before we get to such matters, it will be prudent to investigate the basics with respect to pyramids and cones. Less work will be required in connection with this than one might expect. There seems to be no reason as to why no one seems to have previously bothered to collect the principle known information relative to pyramids and cones so as to improve its availability. ■

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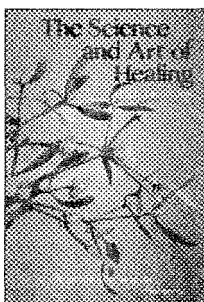
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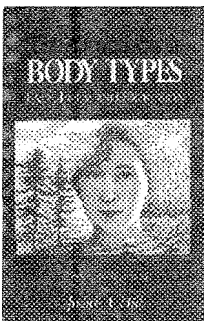


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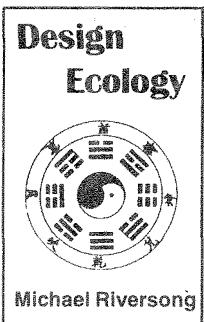
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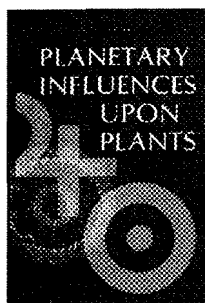
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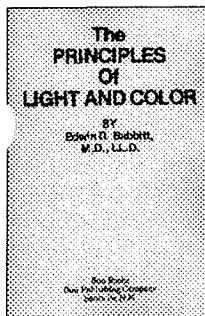
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by Ernst Michael Kranich

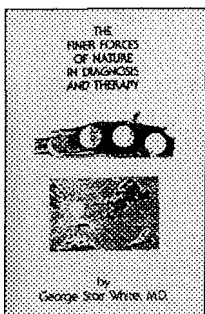
At the beginning of our century a significant change occurred in the investigation of life. The great achievements of the nineteenth century had taken place in the investigation of form; anatomy and comparative morphology had their golden age, of which little is noticeable at universities nowadays. But more recently the interest of biology has shifted from the external form of the organs to life processes and behavior. This book carefully traces the relationship of the "form language" of plants to the planets. Many examples and drawings are included illustrating the connections between the orbital paths of the planets and the shapes and movements found in a variety of plant life. Highly recommended. #B0329, 184pp, paperback, ... \$12.95



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THE FINER FORCES OF NATURE *In Diagnosis & Therapy*

by George Starr White, M.D.. (1929)

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by Dr. Nick Begich and Jeane Manning

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Never A Straight Answer

A Book Review of

NASA Mooned America

by René, 31 Burgess Place, Apt B, Passaic, New Jersey 07055, \$25pp

Review & Commentary by Thomas J. Brown

Long has Earth's Moon been a source a mystery and puzzlement, as well as an inspiration for love and art. It is also the source of vital life rhythms. It has been mankind's dream to touch this strange world, for some simply to discover and explore, for others to exploit. It is now pretty much accepted as common knowledge that the U.S. government's N.A.S.A. has sent manned craft to the Moon, and that they have landed thereon. But wait, not everybody is buying the official story! What's up?

There have been many books questioning the official story of a dead Moon, visited only by a few handpicked humans catapulted there in fancy tincans. Not necessarily in order of appearance, some of these titles are: *Somebody Else is on the Moon* by George H. Leonard, who claims huge mining machines are moving about on the lunar surface; *Our Mysterious Spaceship Moon* and *Secrets of our Spaceship Moon* both by Don Wilson, who claims that the Moon is a giant artificial spaceship and is still inhabited; *The Moon: Outpost of the Gods* by Jean Sedy, who claims that extraterrestrials used the Moon as an Earth observation post and became the gods of old as they interfered with human development; *Flying Saucers on the Moon* by Riley Hansard Crabb, who claims that the Moon is a flying saucer base, and goes on to describe moving lights and changing craters recorded by orthodox astronomers in the 1700 and 1800's; *Moongate: Suppressed Findings of the U.S. Space Program* by William L. Brian II, who claims that the Moon has a heavy gravity (75% of Earth's) and atmosphere, and that a top secret antigravity propulsion system was necessary to get on and off the Moon; *We Discovered Alien Bases On The Moon* by Fred Steckling, which shows quite a number of startling NASA photos indicating vegetation, clouds and domed structures on the Moon, Steckling claims we discovered aliens already there when we got there, and that NASA just couldn't bear to tell us poor, common mortals this astounding news; *Extraterrestrial Archaeology* by David Hatcher Childress, who claims that the Moon is long inhabited and that Mercury, Venus, Mars and some of the moons of the outer planets show signs of current or past inhabitation; *We Never Went To The Moon: America's Thirty Billion Dollar Swindle!* by Bill Kaysing & Randy Reid; and lastly, the subject of this review, *NASA Mooned America!* by René, the last two books dealing with a mass of discrepancies in NASA's public output which the authors take to mean that the Moon shots were faked. All these books are well worth acquiring to broaden one's outlook on this subject.

It is a big charge to claim that NASA never went to the Moon, that it was all a fake, yet this man René has come up with a large body of information that has to be seriously considered. He is obviously not writing this book for the fun of it, I doubt he's making any money at it, and is sure to be scorned and ridiculed simply for

asking good questions which go against the common belief.

EVIDENCE OF PICTURES

René begins with the photographic evidence. The more one looks at photos of the Apollo landings, the more one begins to wonder. No blast craters exist beneath the lunar modules (LEMs), no dust arose from their rocket-softened landings, though the lunar rovers toss dust into the air as though there were an atmosphere acting on the particles. Questions, questions. One important early faked photo is shown here in sequence. Photo 1 is from the book *Carrying The Fire* by Astronaut Michael Collins. It shows Collins in a no-gravity test inside an airplane. Photo 2 is from the same book and is allegedly of a Gemini 10 space walk. René noticed something fishy about these photos and reversed #1 and sized it so he could overlay it on #2. They match... They are the same photo... And this is official NASA output!

René's book shows several other interesting photos which indicate various anomalies. On a splashdown photo of Gemini 6/ there is a whip antenna in excellent condition clearly shown, with no burn marks or scorching (5000 degrees F on reentry). No other Gemini had this antenna, and simple logic indicates that it would have burned off during reentry. Such an antenna is designed for frequencies not used in space.

The cover photo on the book shows two lunar astronauts (or astro-nots as René calls them), one reflected in the other's visor. The reflected astronaut is not holding a camera, so who took the picture with only two on the Moon? Also, in the same photo a piece of what appears to be scaffolding with a spotlight on it appears on the left edge of the photo. I've seen this same photo in several other places, but it is always cropped so the scaffolding is missing.

My favorite of the photo anomalies in the book is shown here as Photo 3, which René has titled "Mutt and Jeff". The anomaly in this photo is obvious. This is a photo of Armstrong, holding the staff, and Aldrin, holding the flag. While the two astronauts are basically the same height, the shadow of Armstrong is about 75% the length of Aldrin's. The shadows are not parallel as they should be, but converge, indicating two sources of light. René used trigonometry to discover that Aldrin's personal source of illumination is at 26.4 degrees of altitude, while Armstrong's is at 34.9 degrees. The sun was at 13.5 degrees altitude on the real Moon, so where were these guys? Certainly not where we have been led to believe. Perhaps a soundstage in the American desert?

NASA allegedly shot tens of thousands of pictures of the lunar landings, yet it is very difficult to procure even a decent percentage of these, and the same ones show up in most publications. The television footage of the first Moon landing was very poor. While

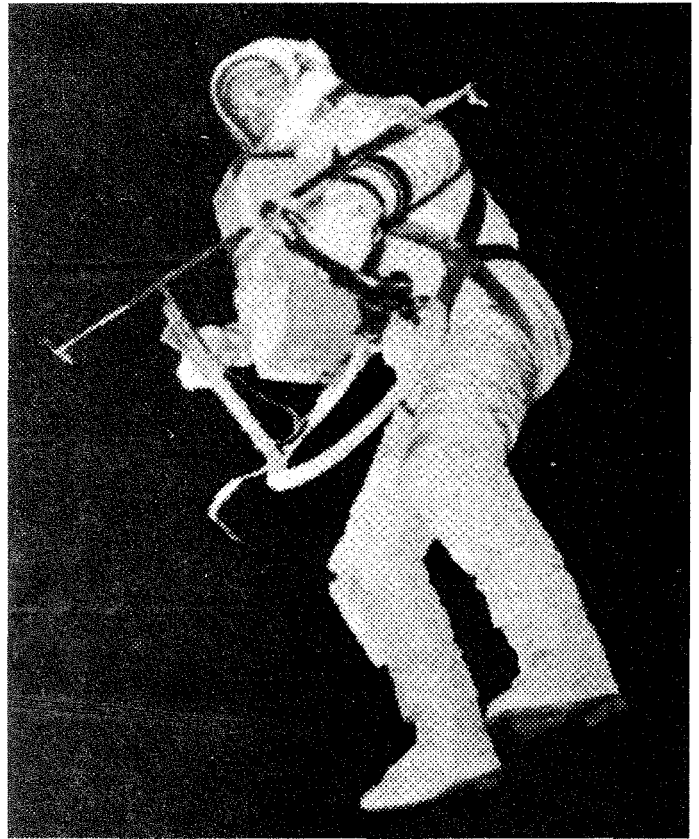
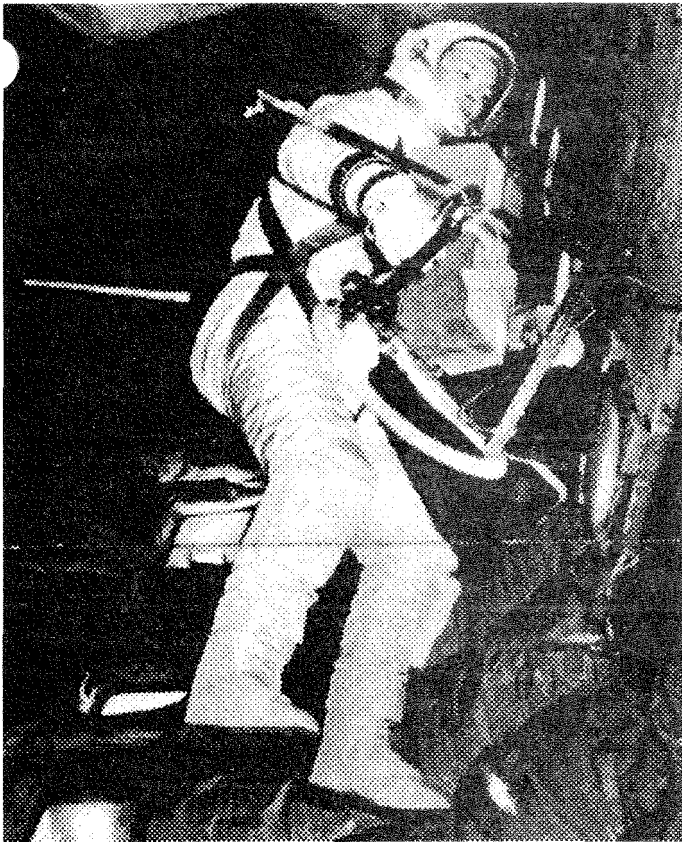


Photo 1,2: The Spacey Twins, NASA used the same photo twice, perhaps to cut expenses?

having access to the finest of technology, NASA would not allow a direct feed of the footage, but forced networks and news services to film through an optically enlarged television screen, adding quite a bit of distortion. During the Apollo 16 lunar lift-off the camera followed the ship up off the surface. No one was left on the Moon, so who panned the camera? NASA later claimed that the camera was radio controlled from Earth, but how could they have followed the ship so closely given the transmission time lag? Kentucky windage?

However, other lunar photos not mentioned by René, but appearing in some of the other previously mentioned books, indicate movement and structure on the Moon. One well known photo, (Photo 4) shot from an unmanned orbiter, which has even appeared in *National Geographic*, shows "boulders" rolling, allegedly from a moonquake. However, basic scrutiny shows that they are rolling up and down hill. Lesser known photographs show how these same "boulders" on other areas of the Moon mak-

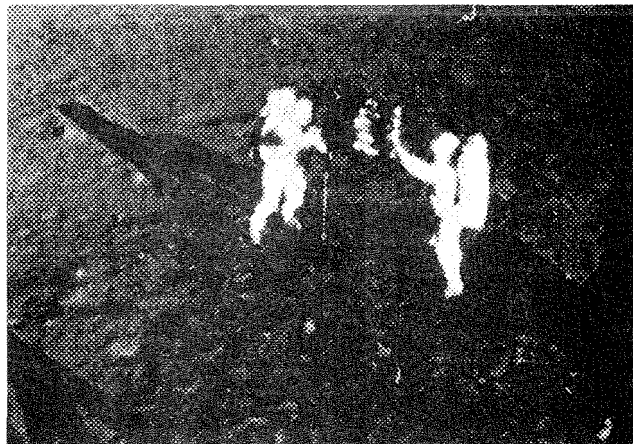


Photo 3
Mutt & Jeff

ing identical track marks. Photo 5 is from *National Geographic*, September 1973, and was shot by the crew of Apollo 17. A close-up shot of this same boulder has appeared in a recent issue of *Nexus* magazine, October-November 1995, which shows it to be the same cylindrical shape with arms as the larger rolling boulder of Photo 4.

Domed and pointed building-like structures appear in craters. These have been written off as lava bubbles or geological responses to the impacts causing the craters, even though the physical evidence goes against them being impact craters (the rim heights are similar regardless of crater diameter). Photo 6 is an enlarged section of a photo of the crater Kepler which appeared in the February 1969 *National Geographic*. It looks to me like there is an artificial complex in Kepler. Fred Steckling has a blowup of this structure in his book.

While René has shown some serious problems with the lunar photos, mostly those of the astronauts on the Moon, he doesn't show any of the boulder or dome photos. I would have to concur that many of the

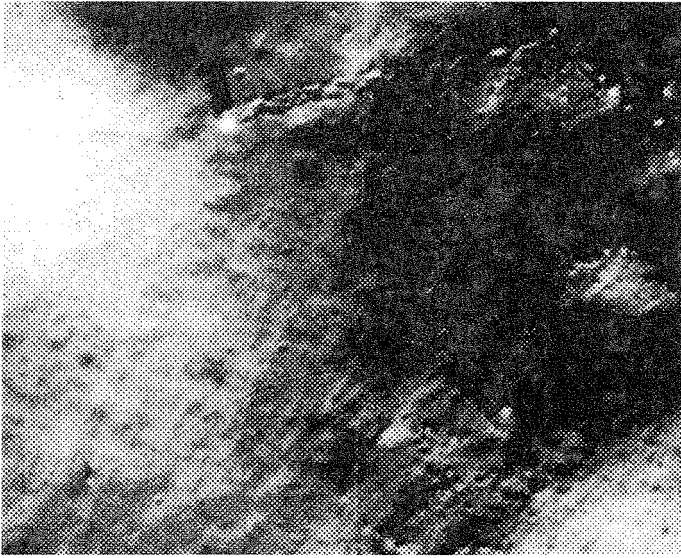


Photo 4: Rolling Boulders

astronaut photos are faked, it becomes obvious after a while. However, I don't think this necessarily brings us to the conclusion that NASA didn't go, but it certainly means we're being lied to about something. But let us go on to further discrepancies:

STAR LIGHT, STAR DARK!

If one were to add up all the astronauts' stated observations of the appearance of space above the atmosphere one would come to the conclusion that they were either crazy, incompetent or they never went, or, perhaps some of them were lying???. Alan Sheppard, first American to be catapulted up reported seeing no stars, ditto for Virgil Grissom. John Glenn reported seeing some brighter stars only (and he saw those weird "fireflies").

To quote some astronauts on the subject:

Neil Armstrong: "The sky is black, you know," "It's a very dark sky."

Mike Collins on Gemini 10: "My God, the stars are everywhere: above me on all sides, even below me somewhat, down there next to that obscure horizon. The stars are bright and they are steady." This was written 14 years after, and remember that the Gemini 10 space walk photo shown here has now been proven fake.

Mike Collins on Apollo 11: "I can't see the earth, only the black starless sky behind the Agena,... As I slowly cartwheel away from the Agena, I see nothing but the black sky for several seconds..." "What I see is disappointing for only the brightest stars are visible through the telescope, and it is difficult to recognize them when they are not accompanied by the dimmer stars..."

Gene Cernan on Apollo 17: "When the sunlight comes through the blackness of space, it's black. I didn't say it's dark, I said black. So black you can't even conceive how black it is in your mind. The sunlight doesn't strike on anything, so all you see is black."

Yuri Gagarin, first Russian cosmonaut: "Astonishingly bright cold stars could be seen through the windows."

Prof. August Piccard on his high altitude balloon flight circa 1938 (many miles up with special heated suit) said that the sky turned from blue to deep violet to black. It is said that he claimed

the sun disappeared as he got to the higher altitudes, though I have been unable to locate this exact reference.

My own investigations of NASA, circa 1987, revealed people who claimed that the stars could not be seen in space, but that special diffraction gratings were being developed to attempt to see them. This was from the period from Sheppard on to Skylab. I later spoke with John Bartoe who was up on an early shuttle flight and he laughed at this, said he couldn't believe that anyone in NASA would say that because he was in space and the stars were brighter than they are on Earth! (They must have slipped him a working diffraction grating.) I called back my contact in NASA and he told me "Sir, the astronaut is a trained observer and is reporting what he saw, but the information I gave you (about the blackness of space) was essentially correct." I spoke with the man who developed the film for NASA for 25 years and he told me that the astronauts weren't even sure if they could see the sun, *that it may have been the appearance of the sun on their windows!*

The fact is that there are no visible light photographs of the sun, the stars, or any planets (other than the Earth & Moon, and not including specific probes sent to those planets) available in any NASA photo catalog. The fact that no stars appear on any photos

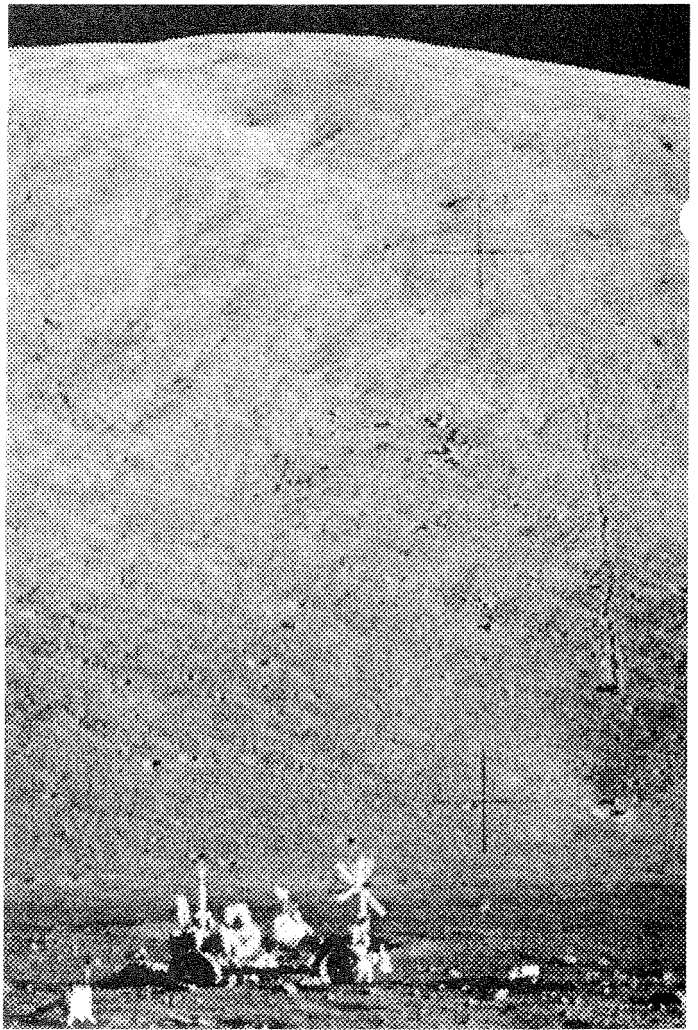


Photo 5: Rolling Boulder Gets Around

was one of the main pillars of evidence for Bill Kaysing's book. René is the source of the astronauts quotes as above and feels that there must be some serious problem with this selective star-blindness. As there is no definite answer available to us right now as to whether or not we can see the stars in space, I would have to say that we cannot base our conclusion as to the validity of the Apollo flights on the evidence of the appearance (or nonappearance) of stars in NASA photos.

THERMAL PROBLEMS

Space is supposed to be at absolute zero. Anything directly in the sunshine heats up incredibly. Skylab overheated when one of its solar panels failed to deploy properly, yet Apollo 13, in direct sunlight and in a lethal radiation zone, supposedly got cold! On the launch pad the ship is air conditioned from ground services. In space the ship is air-conditioned (powered by fuel cells), if you turn off that air conditioner the ship gets cold! At least that is what NASA's line of logic dictates. Apollo 17's LEM sat on the Moon in the direct sun for 75 hours straight. Without massive power and refrigeration units the only way to cool the LEM would have been with the explosive cooling of water. Many tons would have been necessary for that time period. The astronauts reported that the LEMs were "too cold to sleep in". How cold would your closed car be after 75 hours of direct sunlight (or even 1 hour)?

The life support backpacks that the astronauts wore were supposed to COOL them on the lunar surface by discharging water from a blowhole. Conservative calculation of the water necessary to accomplish this, given standard metabolic heat and solar radiation, indicates that the backpacks had to be filled 40% with water, allowing room also for an oxygen bottle, carbon dioxide scrubber, dehumidifier, water bladder for the cooling circuit and one for dump water, a heat exchanger, a radio monitoring bodily function, a communications radio with power to reach Houston,

and a battery to power all this. Also, for the cooling to be functioning, the water had to be ejected from the blow hole regularly. This would have created the effect of a fountain spewing minute crystals of water, quite a tremendous photo opportunity NASA seemed to have missed on tens of thousands of photos. NASA's own cutaway drawing of the backpack shows a water storage capacity of about .43 gallons, almost enough for 27 minutes of operation at the impossible efficiency of 100%. NASA claims 4 hours of operation.

ODD FIT

With the backpacks on the astronauts would need about 35 inches of clearance to crawl through the 30 inch hatch on the LEM (lunar module) in the manner claimed by NASA. Awful tight fit!

After getting back in the LEM the astronauts "repressurized their cabin." Then "they removed their boots, slipped out of the backpacks heavy with life-support equipment that had kept them alive on the Moon, reopened the hatch, and dumped them along with crumpled food packages and filled urine bags onto the surface." (Apollo 11) There is no airlock on the LEM, how did they open the door after repressurization and dump their suits and garbage without dying from the supposed vacuum & heat (or was that cold)?

SPACE RADIATION

Van Allen radiation belts and solar flares create deadly radiation in space. NASA spacecraft were not shielded against this. Apollos 8, 9, 10, 11 & 12 flew during the peak of solar cycle 20, with large flares occurring during the flights. All those astronauts would have received many hundreds or thousands of times the LIFE-TIME radiation limits for nuclear energy workers. A Supersonic Transport (SST) must drop altitude when it gets a dosage of 10 millirems, at 100 millirems it must alter its flight plan. 170 millirems

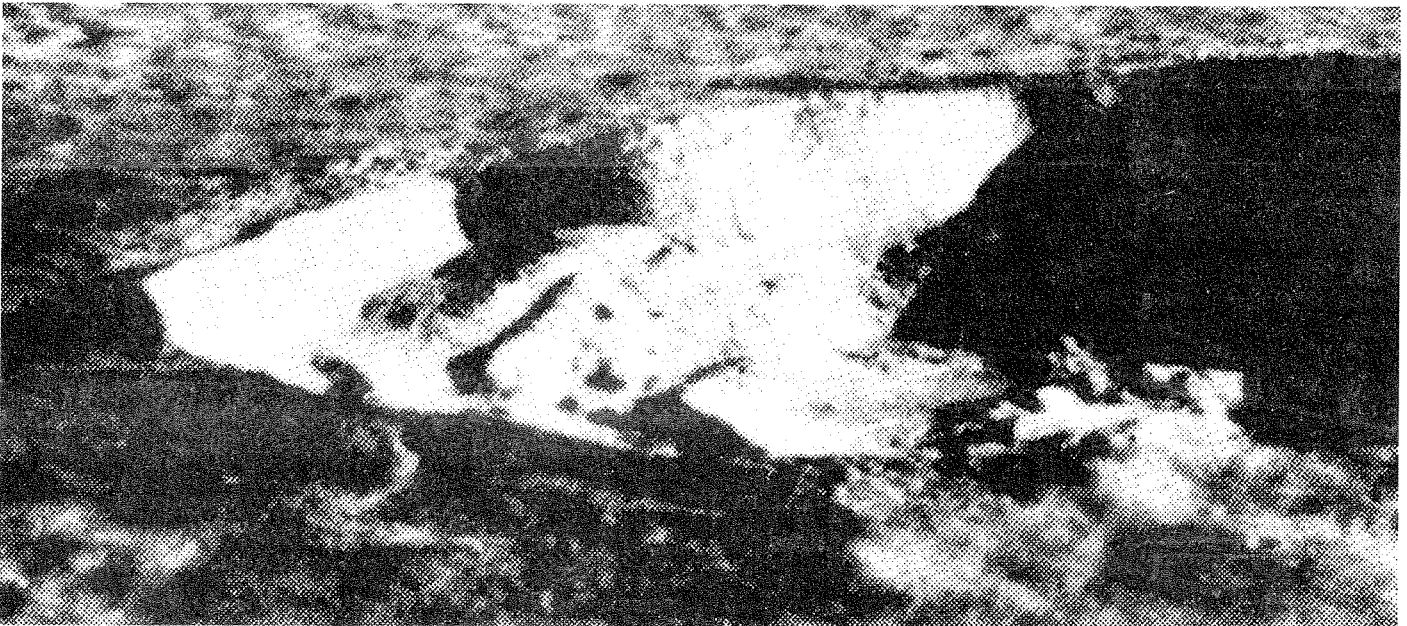


Photo 6: A "city" in the center of Crater Kepler?

is dangerous and almost guarantees cancer in the future. During Apollo 14 & 16 the solar flares would have given the astronauts approximately 75,000 rem (not millirems!). In an article in *National Geographic*, "Chernobyl—One Year Later" it says: "In general, 5 rem is considered acceptable for a nuclear-plant employee in a year, with 25 rem (the total countenanced for Chernobyl cleanup workers) an allowable once-in-a-lifetime dose." The walls of the spacecraft were "paper thin" and the fabric suits had no radiation shielding built in, anyway only very thick lead or a large measure of water (approximately 6 feet of shielding mass) will reduce the radiation of solar flares to anywhere close to safe levels. How did NASA protect the astronauts against this deadly radiation? The words "Space Radiation" appear extremely rarely, if at all, in books about manned space flights. Russian scientists told astronomer Bernard Lovell that they know of no way to shield from radiation outside the Van Allen radiation belts.

OUTRIGHT MURDER?

Shortly before the 1967 test-pad fire that killed three astronauts (Grissom, White & Chaffee) Virgil Grissom told his wife, Betty, "If there is ever a serious accident in the space program, it's likely to be me." He had become a critic of the Space Program and had expressed unease about the success of actually getting men on the Moon. The decision to run this test with pure oxygen at pressure was nothing short of moronic — it created a calorimeter bomb which was set off by the astronauts being told to flip switches that caused tiny sparks. Immediately after the testpad fire, before anyone was notified, government agents raided Grissom's home and took all his personal papers. When they returned his papers to his widow his personal diary and all papers containing the word "Apollo" were missing!

Five other astronauts died in "accidents" that same year. Before the first Apollo manned mission left the launch pad eleven astronauts had died in "accidents", Grissom, White & Chaffee in the capsule fire, Freeman, Basset, See, Rogers, Williams, Adams and Lawrence died in airplane crashes (remember these were the world's best pilots flying their private aircraft, government supplied trainers — very safe craft) and Givens was killed in a car crash. In 1970 Taylor died in a plane crash.

CONCLUSION

There is no doubt that René has opened a can of worms with *NASA Mooned America!* It is a challenge to us researchers to check out his information. Only a small portion of his research appear in this review, René has done his homework well and he is an intelligent man. I agree with most of his information, some of his figuring is beyond my technical grasp, and some things I don't agree with, such as his claim that the lunar footprints could only be made in wet soil. I have made very clear footprints in fine, dry desert dust, and have used them as a guide on returns from in the wilderness. I agree that many photos have been faked, that the information doesn't add up, and that NASA will go to great lengths, to cover up whatever is really happening. I think, and have so for a long time, that there is and has been for centuries, perhaps millennia, intelligent activities occurring on, and perhaps below, the surface of the Moon. I may be wrong, and I admit that possibility, but there is a tremendous body of information to back

up my belief.

As far as NASA is concerned, I think that it is just a dog-and-pony show, while the real space program goes on behind the scenes. All of the authors mentioned in this review can be likened to the six blind men and the elephant. They all have an important piece of the puzzle which is being hidden from us. Let's put those pieces together and work towards a clear picture.

It is hard to make a definite conclusion with all this conflicting information. What is being covered up? It is possible, given the light of René's information on radiation and thermal problems that NASA never went to the Moon. However, there has been quite a bit of activity noticed on the Moon since the discovery of the telescope, and unmanned missions have sent back photos of boulders, obelisks and domes. Perhaps robot craft were landed and sent the photos necessary to fake the backgrounds of the manned missions, or perhaps there is another answer: That there is an advanced technology being used in space that us mere mortals have no access to. We can speculate that antigravity drives would create a protective field (like a personal Van Allen Belt) which would shield those inside the craft from deadly radiation. If so then manned missions may well have been undertaken, but for some reason or another NASA still felt the need to fake some of the informational output. All we can say for sure is that we "Never get A Straight Answer!"

And so I highly recommend *NASA Mooned America!* as an important, must-read book, which should provoke debate. The mass of evidence René presents cannot be simply written off because his conclusions go against what we have been told. His charges must be answered with more detailed information, no sideswipes at his point of view. This entire subject must be examined more fully. ■

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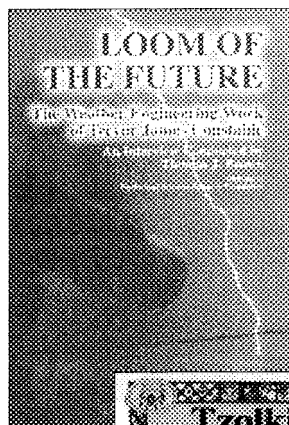
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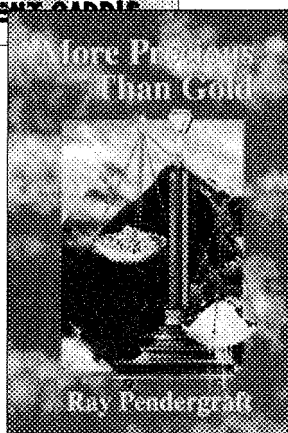


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Mt. Shasta: Home of the Ancients

1995 Expedition Report

by Michael P. Elsey

THE exploratory expedition to Mt. Shasta, California, proved to be an exciting and rewarding experience. Michael Theroux, director of Borderland Sciences, and I set out to explore a region rich with legends and lore regarding ancient tunnel systems and underground cities left by the fabled Lemurians. Armed with Bruce Walton's classic book, *Mt. Shasta, Home Of The Ancients*, we felt it was necessary to either prove or disprove the legends surrounding this fabled mountain. What better way to do this than in person.

The Bruce Walton book, long out of print, has been the cornerstone of my own studies into this majestic mountain. For years, the stories of unexplained phenomena, ancient underground tunnels and cities, lost treasure, and even U.F.O.'s, have kept the curious busy and the skeptical away.

The legends of the remains of a long lost civilization under Mt. Shasta have been circulating in this region for many years, first with the local Indians, then with the explorers and settlers. However, little has been said over the last thirty years or so. Up until that point, though, there were many articles written that appeared in local newspapers in Siskiyou county, and other Northern California counties, that would suggest a wide range of information had reached a lot of people. According to the main bulk of the stories I have reviewed, the Lemurians knew of the coming deluge, and to escape the impending destruction, they migrated to the Eastern most portion of the continent of MU, which some people say is the Pacific Ocean's version of Atlantis. In Robert Dickhoff's *Agharta*,

there is a map of this ancient region, and if you go to the Eastern most part of the map, you will find the Western United States — particularly California. The Lemurians were looking for a safe haven, and they found it under Mt. Shasta. It was now time for Michael Theroux and myself to get busy.

With our map and compass, and not a clue as to whether or not we would find anything at all, we gladly set out on our first day to an area approximately 10 miles north-northeast of the Northern California town of McCloud. In the Walton book, there is a story about an area known as 'Elk Flat', and that the caves of the Elk Flat region lead to an underground village where a race of tall beings live and move. On my forest service map, there are two caves just west of Elk Flat that looked as good a place as any to start. The two caves were in a direct line due north and south, approximately 5 miles apart. We decided to start with the southern cave since it was the closest to our base camp near Elk Flat. We followed a dirt road on the map, parked, and started looking around. For the first hour or so, we saw nothing, but we knew we were in close proximity to the cave. All of a sudden, Michael Theroux felt drawn toward a rise in the terrain. He said that it was the same type of feeling that he gets in his dowsing work. We left the road, and started up the rise, which had lava rock all around. It was strange to see this rise in the terrain because the rest of the area was standard forest terrain. As we got to the top of the rise, there was an indentation in the Earth with trees and plants sticking out. To our surprise, as we looked down into this indentation, we could see two cave entrances, one

facing directly toward Mt. Shasta, and the other facing directly away from the mountain.

We descended down into the indentation toward the first cave, the one facing the mountain. I entered the cave cautiously, since the region does have bears and other critters that could have been down there. Once I determined that all was clear, I went in. The cave was a small room, maybe 30 by 40 feet, with a 15 foot ceiling. The cave ended quickly, though, and we determined that it went nowhere. We turned to the other cave, and found that this cave entrance was different in the fact that it was a hole about 5 feet across that dropped straight down into total darkness. I looked, but couldn't see the bottom. I perched myself on the lip of the edge of the cave, and stuck my head inside so my eyes could adjust to the darkness. Soon, I was able to determine that there was a ten foot vertical drop which landed on a slanted dirt mound that led down at a 45 degree angle. I crawled down, leaped onto the dirt mound, quickly checked again for bears, and started down the dirt embankment. Michael then joined me.

When I got to the bottom of the embankment, I found myself on the floor of a fairly good size room. The room was larger than the other cave, and I noticed a large boulder on the side of the cave. Upon further examination, I saw that there was another room on the other side of the boulder. Directly above my head was what



Author, researcher, explorer, and recording engineer, Michael Elsey preparing to enter the second cave entrance at Elk Flat.



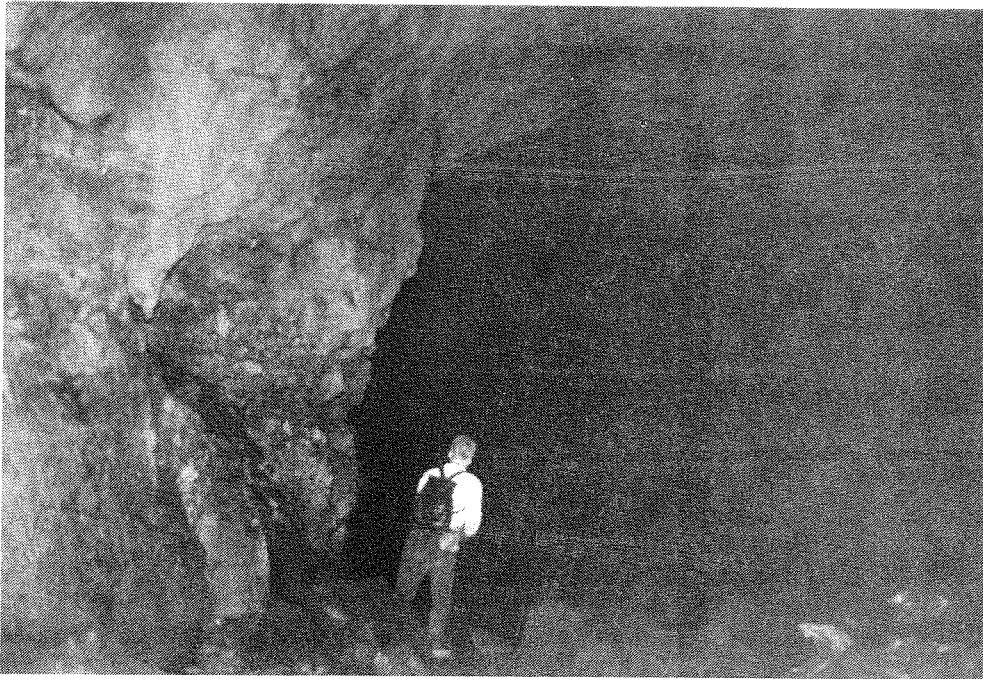
Circle and arrow inscription? It did point the way to the entrance of a long tunnel.

appeared to be an arrow inside of a circle—painted on the rock. On closer examination we found that it was the condensation of water (the ceiling of the cave was dripping with it) but if looked at from the right angle, one would clearly see the circle and arrow. Later, we came across some curious “hash” marks high up the wall of the cavern. These appeared to be formed in the same way the circle and arrow had been formed, but these “signs” looked as though they had been deliberately and intelligently inscribed there.

The arrow did in fact point around the boulder, so I walked around the large rock, and entered a small chamber about 20 feet wide and 16 feet high. Michael followed me, and as we continued, we realized that we had found what we had come for. Right in front of us, was the beginning of a long tunnel.

My initial feelings were a strange combination of terror, exhilaration, and adventure. My mind had no real thoughts to speak of, but my pulse could have given life to a thousand dead people. We started down the tunnel. The sight was amazing. The tunnel was about 35 to 40 feet wide, and as high as 30 feet at places. About every 50 yards, there was a pile of rocks and boulders that went about half way up to the ceiling. We would go over the pile of rocks and boulders, continue down the tunnel, and go over another pile. The tunnel would go for 30 yards or so, then it would veer left. At this spot, there appeared to be an archway where the tunnel turned. This archway was smooth, as if made on purpose; it looked like an archway in a house. The ceiling was consistent too, like an archway. As far as I was concerned, this tunnel could very well have been the one used by these tall beings mentioned in the Walton book to travel to and from the interior.

We went down the tunnel about 100 yards or so on the first day, and decided that we needed more supplies, like fresh batteries for the flashlights, and warmer clothes because it was getting increasingly cold as we continued. We turned around and headed back to the cars. Upon arrival, I noticed that I had a flat tire on my truck, so we would have to put off the second trip until I got my flat fixed.



Michael Elsey, deep inside the cavern at Elk Flat, takes a break to ponder the incredible depth of the tunnel. Note the “hash” marks to the upper right.

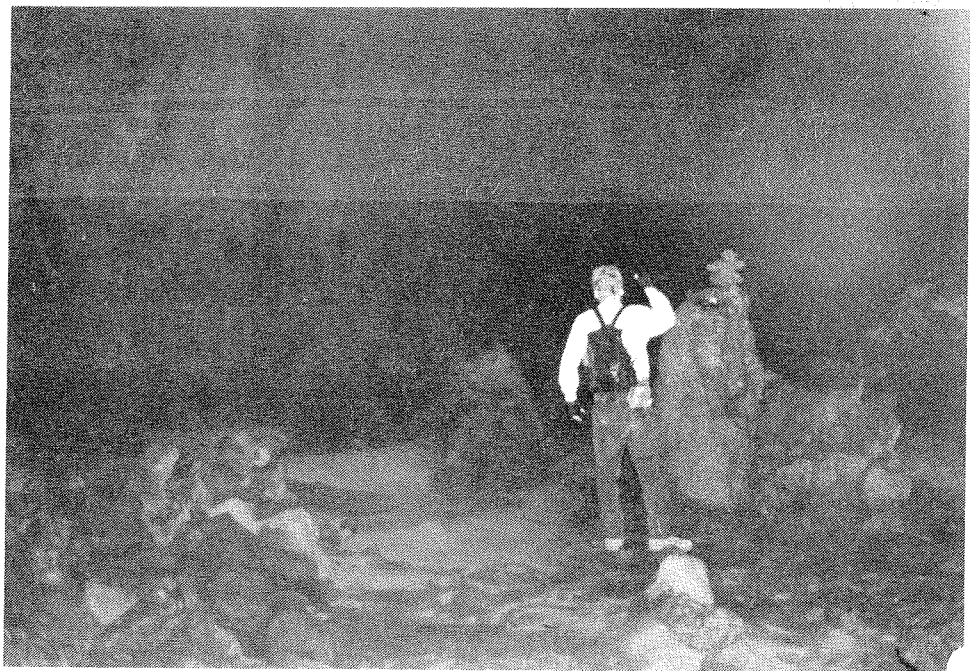
Michael jokingly said that it must have been the ‘Dero’ who produced the flat tire. Anyone who has read about the inner Earth or the ‘Shaver Mystery’ knows that the ‘Deros’ are supposed to be the bad guys who wage havoc on the surface people with ray machines. That may be, but determining whether or not the ‘Dero’ really exist will have to wait until a later trip. I was too preoccupied with this tunnel we had found to be worried about negative entities trying to keep us from our discovery. We had a laugh and headed to town to get my tire fixed. It felt like noon, but was in fact 3:30 pm, and as dusk was approaching, we decided to make camp, and continue our journey in the morning.

The second day was a breeze. We drove up a road newer than the first one we had found, and the cave was about a 15 minute hike from there. We entered the cave, and went right to filming the inside with flash photography and video. With fresh batteries in the flashlights, the tunnel was brighter than before, and we felt better with the warmer clothes. Quickly approaching the spot we had come to the day before, we took some notes, and continued down the tunnel. Up to this point, there had been no real surprises inside the tunnel. At least not yet.

As the tunnel continued, so did the pile of rocks every 50 yards or so. I

climbed over the next pile of rocks, and to my horrific surprise, there directly ahead of me was what could only call a ‘scarecrow’. Right in the middle of the tunnel, someone had stacked a pile of rocks in the form of a man, complete with face, a scarf by his neck, a small pile of lava rock, and some kind of animal bone on top of the scarf. When I first saw it, I froze. Who put it there? How long had it been there? Maybe some kids had built it, but it was hard for me to believe that some kids would be a mile down a tunnel building rock scarecrows, but I suppose that was possible. Something else was possible—maybe someone on the inside had built it because they didn’t want people to continue past this point! Michael and I were really fired up now. Seeing the rock scarecrow only boosted our excitement and enthusiasm. Michael took a picture of me and the rock scarecrow, and we continued down the tunnel. After

another 50 yards or so, we decided to check the compass reading, and to our surprise, it read due Southwest. When we first entered the cave we were facing East, away from Mt. Shasta. As the cave veered left at certain intervals, we figured we should be pointing North to Northeast. But the compass read due Southwest. We figured that being on this kind of exploration we might find some things that might be hard to explain, but this was something that



Michael Elsey examining the ‘scarecrow’.



Borderlands director Michael Theroux studies the arch-shaped ceiling deep inside the cavern.

surprised both of us. As we continued, the piles of rock in the middle of the tunnel were now becoming a nuisance to climb over. It appeared that we were getting close to the end of the tunnel, as the rocks were almost touching the ceiling. At the end, the floor seemed to rise up to meet the ceiling, and the tunnel was now closed off. We took a few more pictures, and as we looked at the

end of the tunnel, I think that we both were a little disappointed that we couldn't continue. We did feel a sense of accomplishment that one of the things we had come to Shasta to find was in fact there, and we explored it. This was our first Borderlands expedition together—we knew there would be more trips, and the next time we will have more time to find even more places to explore.

People have asked me why I am so curious about the legends of Mt. Shasta, and I tell them that my real passion is archaeology and Earth history; Mother Earth history which can't be distorted, altered or suppressed. If we can make ourselves available for the truth to come through, we can only revel in the wonders we may find. The only way to test the validity of these stories is to get out there in the field and start digging. Even Riley Hansard Crabb, who was director of Borderland Sciences from the late 50's through 1985, said that Mt. Shasta was "definitely a Borderland area". The main reason Michael and I were out there was for the pure adventure of mystery and discovery. That's the greatest thing about being interested in the Borderland sciences.

It appeared to us that the tunnel we had found should continue, so our next task is to determine its direction, and try to find another entrance so that we can continue our investigation. My thanks to Michael Theroux for accompanying me on this most exciting first exploration of the magical world of Mt. Shasta, California. I know that our next trip will be even more exciting. ■

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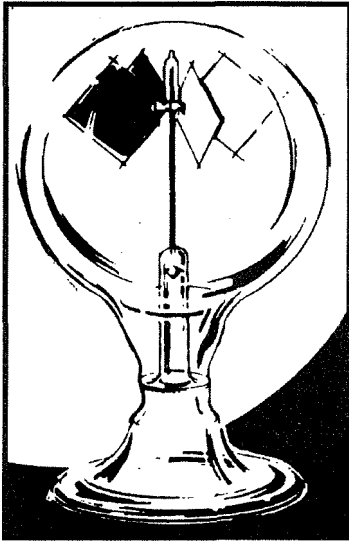
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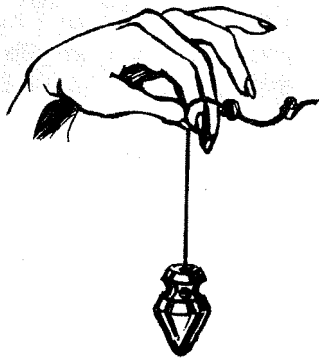
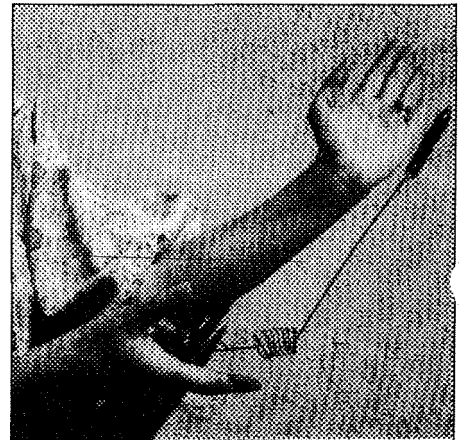
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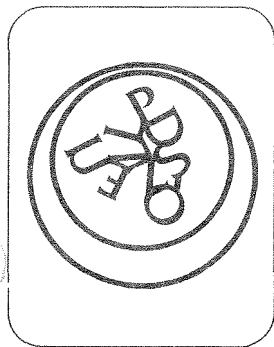
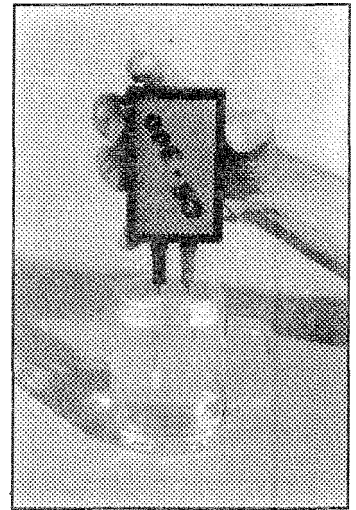
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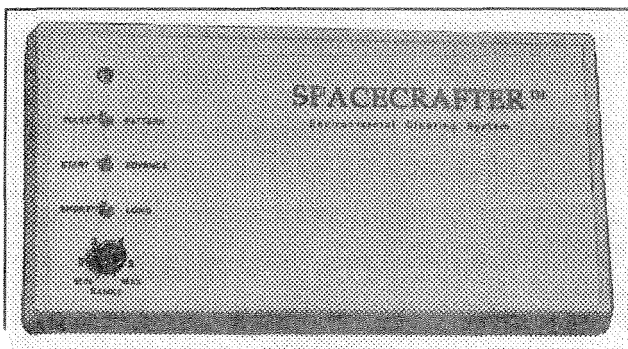
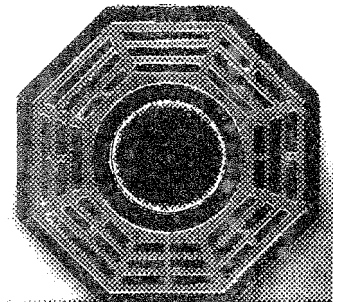
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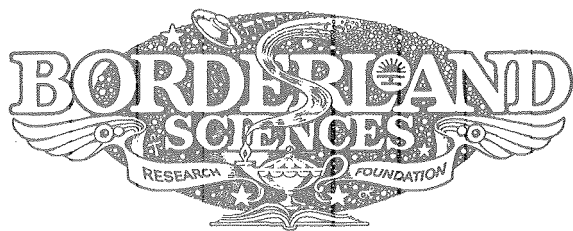
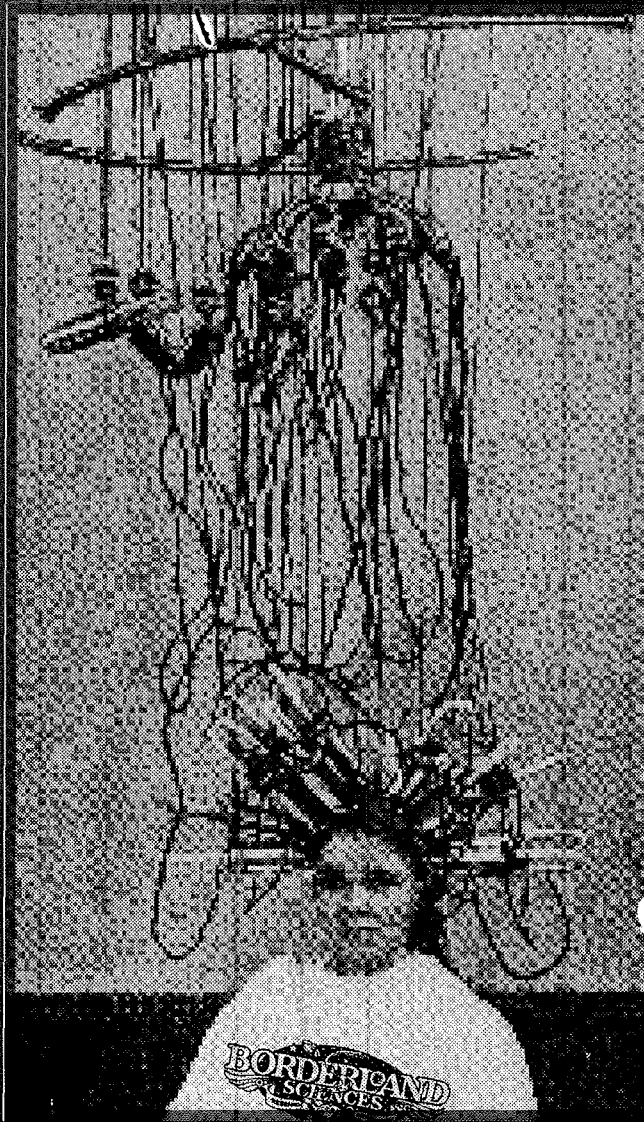
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